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A glossary of over 4000 English and foreign words, terms and abbreviations which may be encountered in English literature or in the gem, jewelry or art trades.

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PREFACE TO FOURTH EDITION

To keep this *Dictionary* completely current and of the greatest possible help and value to its user, new developments and discoveries in the gemological field, since publication of the third edition in 1947, have been added.

Cross references are used when it is believed such procedure will give lucidity to the true meaning of definitions. In such instances the references are indicated by bold face type in the copy.

Much of the value of this book will be lost unless instructions outlined in "How to Use This Book," page IX, are read and followed most carefully. Key to pronunciation is given and certain departures from conventional dictionary practices are explained.

Robert M. Shipley

September 1, 1948

PREFACE TO THE THIRD EDITION

Additional changes and corrections have been made to previous editions. Most of these were the result of additional research of the writer as he compiled the glossary of the *Jewelers Pocket Reference Book* from February 1946 to April 1947.

Further corrections were made as the result of suggestions or criticisms of readers and of Dr. E. Gübelin, as well as R. T. Liddicoat, Jr., and Dr. George Switzer of the Institute's staff.

Robert M. Shipley

May 28, 1947

PREFACE TO THE SECOND EDITION

Toward fulfillment of our purpose of meriting the acceptance of this Dictionary as an international reference book for the gemological profession, criticism of the first edition was invited from the several outstanding gemologists, mineralogists and practical jewelers mentioned later in the preface. As a result, errors of varying importance have been corrected, definitions have been clarified in the body of the Dictionary, while valuable additions to many of the definitions will be found in the Addenda.

Cross references in definitions in the Dictionary call to the reader's attention the entries among the addenda, as in the definition of **bezel,** on page 24, which contains a reference to page 255, on which appear additional definitions of **bezel.**

Because of mechanical difficulties, no attempt has been made in this edition to include a number of *additional* words and their meanings which have been suggested. However, many new alternate definitions have been added; the book has been carefully checked for typographical errors or ambiguous phrasing; and the few factual errors of the first edition have been eliminated.

Credit for revisions is due principally to the generous cooperation of the following internationally recognized authorities on gemstones: Dr. B. W. Anderson, Director of the Precious Stone Laboratory, London Chamber of Commerce; Dr. Sydney H. Ball, author of especially important reports and articles on diamonds and other gemstones; Dr. Edward Gübelin, Certified Gemologist, internationally educated gemologist and founder of the Swiss Gemmological Association; Dr. Edward H. Kraus, co-author of *Min-*

eralogy, and *Gems and Gem Materials;* G. F. Herbert Smith, author of *Gemstones,* and president of the Gemmological Association of Great Britain; L. J. Spencer, translator of Bauer's *Precious Stones,* author of *Precious Stones,* and secretary of the Mineralogical Society of Great Britain; and A. Espositer, lapidary of New York. George H. Marcher, Certified Gemologist, lapidist and authority on gemstones of western United States, contributed invaluable criticisms and suggestions.

To these men we are especially grateful for their generous assistance toward what we hope will be only the first of many improved editions of the Dictionary in future decades.

For the Authors,
Robert M. Shipley.

December 14, 1945

INTRODUCTION

The forerunner. The forerunner of this dictionary was a gemological glossary published serially from January, 1934 to December, 1940, in *Gems & Gemology*, the quarterly periodical of the Gemological Institute of America, and later published in booklet form for use exclusively with its mail courses in gemology. That glossary was compiled by various members of the Staff of the Institute during the years of its serial publication. It contained about 1,700 definitions and pronunciations.

The sources. The definitions in this rewritten and expanded work, have been written by the compiler; or he or his assistant, A. M. Beckley, has condensed them from or checked them against the important books, reports, or articles which have been written by recognized gemological authorities in English, German, or French. The name of any such gemological authority has been mentioned in the definition only in the event (1) that the authority has written the definition or otherwise furnished the information especially for this dictionary, (2) that the authority has been the only authority to make the statement indicating that it was the result of personal research, or (3) that the authority has differed from the compiler, or with other recognized authorities in which event a digest of the definitions of those authorities who are in disagreement is also included in the definition. See Chapter entitled THE USE OF THE BOOK for more detailed information on this subject.

Special recognition. Especial appreciation is due not only to the assistant compilers, Edward Wigglesworth, Robert

M. Shipley, Jr. and A. M. Beckley, all of whom read the proof and supplied invaluable corrections and additions, but also to staff members of G.I.A. who read proof; to Dr. G. F. Herbert Smith, F.R.A.S., and Messrs. B. W. Anderson, F.G.A., and R. Webster, F.G.A., who gave special permission for the numerous references to their works; and to Dean Edward H. Kraus, and Mr. H. Paul Juergens, C. G., for specialized correction and advice, from the latter on the subject of pearls.

Future editions will become increasingly useful if our readers will advise the publishers of any seeming errors in the copy; of definitions which may seem to be at variance with definitions or statements of authors or trade authorities of international recognition; or of additional definitions, or other additions which in their opinion will enhance the value of the book. Suggestions should be addressed to: The Gemological Institute of America, 541 South Alexandria, Los Angeles 5, California.

The Companion Volume. A diamond glossary, a portion of which appeared serially in the periodical *Gems & Gemology*, is now in preparation and will later be published as a book uniform with this volume. Hence the only definitions in this dictionary which contain any specialized information concerning diamonds are a few brief definitions of the better known and most famous diamonds, the replicas of which are frequently exhibited.

THE USE OF THE BOOK

In determining the format of this book the compiler's principal purpose was to produce a compact, all-inclusive reference book which for the layman or the beginning student would (1) be a pocket-sized volume, (2) contain a definition of every unusual word or term used in any of its definitions, and (3) contain all essential gemological information in such form that it will create a demand that it be revised and expanded frequently by the present compiler and his successors in future years. To accomplish this principal purpose certain departures from conventional practice have been made:

Titles in quotation marks mean that the name or term is incorrect or misleading, as evidenced by the definition. For example: "African jade" is an incorrect term for green grossularite, as stated in the "African jade" definition.

Names or terms in bold type, whether in the body of the definition or at the end of it, mean that the reader should refer to the entry for that name to be sure that the full meaning of the first definition is clear. While the reader may find no information which is new to him under the second definition, even advanced students of gemology are advised to follow this practice to assure accuracy.

The physical properties of varieties of gemstones are not included under the definition of the variety unless such properties are especially distinctive from those of the entire gem mineral species under which the properties

are, of course, listed.

All abbreviations used are defined in their alphabetic order in this dictionary.

All descriptive terms, such as those used in the nomenclature of mineralogy, color, etc., are defined.

Such terms as *oriental amethyst, Colombian emerald, ruby spinel,* and others are listed but once as such. They are not again listed under *amethyst, oriental; emerald, Colombian; spinel, ruby* —as is the common practice.

Names of authorities mentioned in the definitions appear with a brief biography or list of their books in the alphabetical entries of the dictionary. When the name appears within a definition, it is enclosed in parentheses. If a period appears before the parenthesis, that name is authority for the information contained in the sentences immediately preceding. If the period appears after the parenthesis, the name is authority for that sentence only. If more than one authority of the same surname is quoted, identifying initials are given. If other dictionaries are quoted, the popular name is used, as *Standard* and *Webster* (as distinguished from the author R. Webster). References to Dana are to Dana's *Textbook on Mineralogy,* 4th (Revised) Edition. References to Schlossmacher are principally to his revised edition of *Bauer's Edelsteinkunde.*

Pronunciation. The pronunciation key which we have adopted is designed to give the reader some guide to pronunciation with emphasis on the syllables to be accented. In general, a vowel alone is to be sounded as soft, as, "a" alone should be sounded as the "a" in "cat." An "e" following a vowel indicates a long sound for that vowel. Thus "ae" should be sounded as the "a" in "mate." When a vowel appears in a syllable, the same rule holds. The syllable "it" is pronounced as in "fit"; "ite" is as in "bite." A primary accent (′) indicates the

syllable of the word which receives the greatest emphasis, a secondary accent (″) indicates that which receives secondary emphasis.

The dictionary's use as a gemological directory. An effort has been made to include in alphabetical order the names, descriptions and addresses of organizations, museums, laboratories and periodicals which are especially concerned with gems.

Gemological titles are described.

Various authorized lists of birthstones, anniversary stones, and zodiacal stones as accepted in various countries will be found under birthstones, anniversary stones, etc.

"Every other author may aspire to praise, the lexicographer can only hope to escape reproach."

—Dr. Samuel Johnson.

DICTIONARY OF GEMS AND GEMOLOGY

A

A or **A.U.** Abbreviation for Angström unit, as, 7900 A.

abalone (ab″a-lo′nee). The mollusc Haliotis, also known as an ormer or ear-shell. From Pacific waters of California, Mexico, Japan, N. Z., and other countries. See also **Haliotis.**

abalone pearl. A colored pearl from the **abalone.** Usually a blister pearl although a **true pearl** is found occasionally, especially in Mexico and California. Usually of pronounced green, pale green or pink hues.

abás. Persian weight for pearls. About 2.66 troy grains.

aberration (ab″er-ae′shun). The failure of a lens or mirror to bring the light rays to the same focus. When aberration is due to the form of the lens or mirror it is called *spherical aberration.* When due to the different refrangibility of light of different colors, it is called *chromatic aberration.* When present in magnifiers it often causes inaccurate decisions as to flawlessness or color of gems.

abrade. To wear away by friction; to produce abrasion. **See abrasive.**

abrasive (ab-rae′siv). A substance such as emery (powdered corundum) used to wear away another substance by friction. Carborundum, diamond powder and other abrasives are used in **fashioning** gemstones.

absorption. (a) White light is a combination (blending) of those hues of the **spectrum** which are seen in the rainbow. The **hue** of a gemstone is due to the absorption of certain portions of white light in its passage through the gemstone. The remainder of the light which is not absorbed in the gemstone combines or

Titles within **quotation marks** are misnomers. Every unusual word or term used is defined in this book and if printed in **bold faced type** its entry should be consulted. To fully understand the definitions, read the introductory pages.

blends to produce the hue seen. This process is called *selective absorption*. See also **selective reflection.** (b) The exact portions of white light which are absorbed by a gemstone or other substance may be determined by means of the spectroscope forming a band of colors known as an *absorption spectrum*. (c) Dark zones crossing the spectrum represent the portions of the light absorbed and are known as *absorption bands* or *absorption lines*. See **Fraunhofer lines.**

absorption bands. See **absorption.**

absorption lines. Same as **absorption bands.**

absorption spectrum (plural, **spectra**). See **absorption.**

accarbaar. Southeastern Asiatic name for black coral. See **akabar.**

accidental pearl. Genuine natural pearl as distinguished from (artificially induced) **cultured pearl.** A term not used in the trade as it is of questionable meaning.

acentela (Span.). Rock crystal.

acetylene tetrabromide. $C_2H_2Br_4$ S.G. 2.964 (at 20° C.) which can be lowered by mixing with alcohol (Smith). Is lowered by dilution with toluol (R. Webster). A **heavy liquid.**

Achat (German). Agate.

achates. Ancient name for agate.

achirite. Same as **dioptase.**

achroite (ak'roe-ite). Colorless tourmaline.

achromatic. Free from hue. See **achromatic color; achromatic loupe.**

achromatic color. White, black, or any tone of neutral gray, i.e., gray containing no tinge of any **hue.** See **chromatic color.**

achromatic loupe. Any **loupe** containing an **achromatic lens.**

achromatic triplet. Loupe corrected for chromatic **aberration.** See **loupe.**

acicular. Needlelike.

aciform. Needle shaped.

acroita (Span.). Colorless tourmaline.

actinolite. A green calcium-magnesium-iron amphibole of which **nephrite** and an **asbestos** are usually considered to be varieties (Dana; Kraus and Hunt). Occurs as fibers in prase, and as **macroscopic** inclusions in **sagenitic quartz** and other gemstones. S.G. 3.0-3.2. R.I. 1.61/1.64.

acute. Sharply pointed.

adamantine (ad"a-man'tin or 'teen). Extraordinarily hard. From *adamas* (Greek). The luster of the diamond.

adamantine spar. A name for silky brown corundum. Same as **seal sapphire.** Now more generally applied to dull opaque corundum from India, ground for use as polishing agent.

adamite. Manufacturer's trade name for artificial **corundum** used as an abrasive.

adductor muscle. A muscle passing across from one valve of a **bivalve** to the other, for the purpose of closing the shell.

"Adelaide ruby." Blood-red **pyrope** (garnet) from South Africa.

adinol. A silicified porphyry or diabase mentioned by Schlossmacher; of little or no gemological importance.

adularescence (ad″ue-lar-es′-ens). Reflection from thin platy **twin lamellae** that compose **adularia** causing **interference of light** and the milky blue sheen seen in **precious moonstone,** often incorrectly called **opalescence.**

adularia (ad″ue-la′ria). A transparent to translucent, colorless to milky, gem variety of **orthoclase,** principally from Ceylon. Same as **precious moonstone.** See **orthoclase.**

adularia moonstone. Same as **precious moonstone.** See also **adularia.**

aeroides. An American name for pale sky-blue aquamarine (Schlossmacher).

aetites. Same as eagle stone (Kunz).

Afghanistan lapis. Fine blue, best quality **lapis lazuli** from Badakshan district, of Afghanistan, or from just over the border in Russia. Better known in the trade as **Russian lapis.**

Afghanistan ruby. Ruby formerly mined near Kabul and also in Badakshan (Schlossmacher).

"African emerald." Deceiving name for green fluor; also for green tourmaline. See **African emerald.**

African emerald. Emerald from the Transvaal. Usually quite yellowish green; often dark and dull. H. 7.5; S.G. 2.72-2.79; R.I. 1.58-1.59; Bi. 0.007 (Smith).

"African jade." Green **grossularite.** Same as **"Transvaal jade."**

African nephrite. Same as **Transvaal nephrite.**

African pearl. True pearl found in small quantities on east coast of Africa between Zanzibar and Inhambane.

African tourmaline. (1) Trade term sometimes applied to all yellowish-green to bluish-green tourmaline whether or not from Africa. Same as **Transvaal tourmaline.** (2) A term sometimes used especially for fine, almost emerald-green, tourmaline from S. W. Africa.

africita (Span.). Black tourmaline.

Ag. Abbr. for the element silver.

agalmatolite or **pagodite.** Names applied to certain varieties of **pinite** (muscovite), pyrophyllite (pencil stone), and **steatite.** From all of these the Chinese fashion small images, miniature pagodas and other objects, which are generally sold as soapstone in North America. Soft (H. 1-3; S.G. 2.7-2.9), compact, greenish, yellowish, brownish or grayish.

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An **ornamental stone.**

agaphite. A vitreous variety of **Persian turquoise.**

agata musgo (Port. and Span.). **Moss agate.**

agate (ag′ at). One of the many varieties of **chalcedony.** Multicolored: (1) in parallel bands of varying thickness, (2) in irregular clouds, or (3) with inclusions of other minerals (as in moss agate). Bands are usually irregular and sometimes concentric, conforming in shape to the outline of the cavity in which formed. Bands are sometimes straight, but if of other colors than tones of gray, the stone is then properly known as **onyx.** Most banded agate occurs with bands of different tones of gray. Such agate is often dyed or artificially colored. See **onyx; onyx agate.**

agate glass. Glass made by melting together waste pieces of glass of different colors. (Webster)

agate jasper. Mixture of jasper and chalcedony. Same as **jasp-agate.**

agate opal. See **opal agate.**

agate shell. Same as agate snail, a large land snail of no gemological interest.

agate ware. A variety of **Wedgwood** colored and marked to resemble agate.

agatiferous. Producing or containing **agate.**

agatine. Like, or pertaining to, **agate.**

agatize. To change into, or cause to resemble an **agate.**

agatized wood. A variety of **silicified wood** which resembles any variety of agate.

aggregate. Cluster or group. See **crystalline aggregate.**

A. G. S. American Gem Society.

Agstein (German). Jet.

ahkan. Burmese name for bed rock, usually limestone, below the **byon.** *(Gems & Gemology).*

Ahlamah. The ninth stone in the breastplate of the High Priest. Generally accepted to have been an amethyst. Engraved with the name Dan.

Ahrens prism. A modification of the Nicol prism.

aigue-marine (French). Aquamarine.

ajkaite. A **fossil resin.**

à jour (a-zhoor) (French). Literally, allowing light to penetrate. Used to describe the method of setting a gem in any mounting which permits a view of its pavilion.

akabar. A name used for black coral in Indian Ocean region. See **accarbaar.**

akori. A porous coral which, previous to beginning of 18th Century was fished and fashioned and prized by the negroes of West African coast. Red, blue or violet. Has also been fished in Samoa; probably still used as gem by natives. The name has

more recently been applied to substitutes such as rock, glass, and pearl with little nacre.

Al. Abbr. for the element aluminum.

"Alabandine ruby" (al″ a-ban′-din). Originally, almandine garnet from ancient Alabanda, Asia Minor. Now sometimes applied to violetish-red spinel.

alabaster. A translucent to semi-transparent massive form of **gypsum.** Usually snow-white in color. Easily carved. $CaSO_4.2H_2O$; H. 1½-2; S. G. 2.3. Calcite is also sometimes incorrectly called alabaster. See **Egyptian alabaster; oriental alabaster.**

alajites (Mexican). Altered **rhodonite** (Dwight).

alalite (al′a-lite). A mineral. Same as **diopside.**

alaqueca (Span.). Bloodstone.

"Alaska diamond." Rock crystal.

albandine (al′ban-din). Same as almandine.

albite. A species of the **feldspar** group. $NaAlSi_3O_8$. H. 6-6.5; S. G. 2.6-2.7; R.I. 1.53/1.54; Bi. 0.011. See **albite moonstone; aventurine feldspar.**

albite moonstone. A variety of **albite,** exhibiting adularescence, which is more pale greenish to yellowish, although other colors appear simultaneously. From North America only, in Pa., N. Y., and Canada (Schlossmacher). See also **peristerite.**

alejandrita (Span.). Alexandrite.

"Alencon diamond." Rock crystal.

Aleppo stone. Eye agate.

Alessandrienturkis. Name used in German books for **Alexandrian turquoise.**

alexanderite. A misspelling of alexandrite which has been used deceivingly for alexandrite-like synthetic sapphire or synthetic spinel.

Alexandrian turquoise. A trade term for **Egyptian turquoise.**

Alexandria shell. Mother-of-pearl.

"alexandrine." Incorrect name for **alexandrite-like sapphire;** also for so-called **"synthetic alexandrite."**

alexandrine sapphire or **alexandrite-like sapphire.** A sapphire; blue in daylight, changing to violet, purple or reddish under most artificial light. So named because **alexandrite** also changes color under similar conditions.

"alexandrite." Alexandrite - like synthetic spinel or synthetic sapphire. See **alexandrite.**

alexandrite (al″eg-zan′drite). A variety of **chrysoberyl,** emerald green in daylight, red to violet by ordinary artificial light. From Russia; Ceylon.

alexandrite cat's-eye. A chatoyant variety of alexandrite.

alexandrite-like andalusite. Andalusite of various colors which become reddish under lamplight and most other artificial light.

alexandrite-like tourmaline. Same as **chameleonite.**

Algerian coral. Trade term for coral of inferior quality from the Mediterranean Sea. More specifically only that from the coast of Algeria.

alladinite. A casein resin used as a mould material for many common objects.

allanite. A mineral which may very occasionally be cut as a gemstone (Eppler). Interesting only to gem collectors. Semi-translucent to opaque, reddish brown to pitch black with semi-metallic luster. Mono. H. 5.5-6; S.G. 3.0-4.2; R.I. varies from 1.64 to 1.80. H. $(Ca,Fe)_2(Al,Ce)_3Si_3O_{13}$. From Saxony, N. Y., N. J., and a few other sources. Same as **orthite.**

allochromatic stone. A mineral that in its purest state would be colorless or white, but is often colored by submicroscopic impurities or inclusions of other minerals. Most gemstones are allochromatic. See **idiochromatic.**

allotrope. One of the forms assumed by an allotropic substance; as the diamond is an allotrope of carbon. (Standard.) See **allotropy.**

allotropy, allotropism. The capacity of existing in two or more conditions that are distinguished by differences in properties. Thus carbon occurs in the cubic system as diamond, in the hexagonal system as graphite, and in amorphous forms as charcoal.

alloy. An intimate combination of (1) two or more metallic elements, as bronze, which is an alloy of copper and silver, or (2) two or more metallic and non-metallic elements, the principal one of which is a metal, as steel, which is an alloy composed principally of iron. An alloy, like a metal, is a **crystalline aggregate.** See **solid gold.**

alluvial. Pertaining to the action of rivers, or to unconsolidated material such as soil, sand and gravel which has been washed from one place and deposited in another. Such **a secondary deposit** is known as an **alluvial deposit** whether found in a still active river bed or one now covered by soil. See **detritus.**

alluvial deposit. An unconsolidated or loose deposit, such as gravel, sand, etc., deposited by rivers. (Wigglesworth).

alluvial fan. An outspread sloping deposit of boulders, gravel, and sand left by streams where they spread from a gorge upon a plain, or an open valley bottom.

alluvial stone. A mineral that has been transported and deposited by water. See **alluvial deposit.**

alluvium. A deposit of gravel, sand, earth or other material. See **alluvial deposit.**

almandine (al'man-deen). (1) Gemologically, a red to purple to

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black species of garnet. Gem qualities transparent and usually purplish red. $Fe_3Al_2(SiO_4)_3$. Iso. H. 7½; S.G. 3.9-4.2; R.I., 1.76-1.81. Bi. none. Disp. 0.024. From many countries, including Alaska, which produces few of gem use. **Almandite** is the mineralogical name. Purple variety of spinel is, rarely, called almandine, but more correctly **almandine spinel.** (2) As an adjective a color designation meaning purplish-red or purple-red, as in **almandine spinel.**

almandine sapphire. Reddish purple sapphire.

almandine spinel. Reddish purple to purplish red spinel.

"almandite." This term has been deceivingly used as a trade name for synthetic almandine spinel. See **almandite.**

almandite (al'man-dite). Mineralogical name for almandine garnet. See **almandine.**

"almaz" (Russian, or Slavic). An uncut diamond.

almond stone. Almandine garnet.

almashite. A green or black variety of **Rumanian amber.** From Alamash Valley, Moldavia, Rumania.

alomite. Trade name for the fine blue **sodalite** quarried at Bancroft, Ontario, Canada, used as an ornamental stone. Also called princess blue.

aloxite. Proprietary name for a form of fused crystalline alumina, or artificial corundum.

alpha quartz. Quartz which has formed at less than 573°C. in veins, geodes and large pegmatites (Dana). Includes most of the quartz cut as gems. Atomic structure varies as temperature increases to this point when there is a distinct and permanent change to **beta quartz.** Wild states that most fired amethysts change in color from 200° or 300° up to about 573° when they change to **topaz quartz.** Other authorities with less practical experience in heat treatment differ.

alpha zircon. A mineralogical name for any zircon with properties about S. G. 4.7; R. I. 1.92/1.98. Strongly birefringent, 0.059. Almost no other type is used in jewelry.. See **zircon, beta zircon, gamma zircon.**

"Alpine diamond." Pyrite.

alshedite. Sphene.

altered stone. Any stone of which the appearance, especially the color, has been changed by any artificial means, whatsoever. Such change may be either external or internal. See **treated stone, coated stone, heated stone, stained stone.**

alumina. Aluminum oxide, the composition of colorless corundum. Synthetic ruby and sapphire is manufactured from powdered alumina.

alundum. A trade name for arti-

ficial corundum.

amaryl. A trade name for green synthetic sapphire.

amatista (Spanish). Amethyst.

amatista mosquito (Span.). Same as **mosquito amethyst.**

amatrice. Trade name for concretions of variscite (sometimes containing wardite), occurring in gray, reddish or brownish matrix of crystalline quartz (or chalcedony quartz or both), which may also contain inclusions of variscite or wardite or both. H. 5-7. See **amatrix.**

amatrix (abbreviation of American matrix). Same as **amatrice** which is the preferred American spelling.

amause. Same as **strass.**

amazonite (am'a-zon-ite). Bright green laminated variety of **microcline.** Used more as an ornamental stone than as a gemstone. Opaque. H. 6-6½; S.G. 2.5; R.I 1.52/1.53. From Russia, Virginia, Pike's Peak, Colo., and other sources. Same as **amazonstone.** Also see **feldspar.**

"Amazon jade." Amazonite.

amazonstone. The earlier and still popular name for **amazonite.** Also written *Amazon stone.*

amber. (1) A transparent to translucent **fossil resin** used as a gem material. Usually yellow or brownish. A hydrocarbon. H. 2-2½; S.G. 1.05-1.10; R.I. 1.54. Bi. none. See also **true amber; block amber; burmite; rumanite; simetite; succinite.** (2) A color designation meaning the color of orangy yellow amber as in amber glass, amber opal.

amber colophany. Same as **amber pitch.**

amber drop. Term describing a shape in which amber occurs.

amber forest. A fossil forest from which amber has been formed.

ambergris (am'ber-grees). A waxy substance found floating in tropical seas; a morbid secretion in the sperm whale, whence it is all believed to come. Valued in perfumery. Not used in jewelry. Often popularly confused with **amber.**

amberine. A local trade name of a yellowish green **chalcedony** from Death Valley, California (English).

amber lac. Same as **amber varnish.** Amber pitch powdered and dissolved in turpentine or linseed oil.

amberoid. A name for pressed amber.

amber, oil of. A reddish brown distillation of amber.

amber opal. Brownish-yellow variety stained by iron oxide.

amber pitch. The residue resulting from the distillation of oil of amber.

amber tear. Term describing a shape in which amber occurs.

amber varnish. Same as **amber lac.**

Titles within quotation marks are misnomers. Every unusual word or term used is defined in this book and if printed in **bold faced type** its entry should be consulted. To fully understand the definitions, read the introductory pages.

ambery. Amber-like.

ambra (Italian). Amber.

ambre (French). Amber.

ambre jaune (Fr., yellow amber). Amber in contrast to *amber gris* (Fr., grey amber). See **ambergris.**

ambrite (am'brite). A fossil resin occurring in large masses in New Zealand.

ambroid. Same as **amberoid.**

American Gem Society. A professional society in U.S.A. and Canada which awards titles, to individuals and firms, on basis of gemological examinations and maintenance of the Society's standards of business policy. Founded in 1934 for the furtherance of gemological education, which it encourages by: awarding and maintaining such titles; assisting in the preparation and dissemination of gemological publications (including its own periodical *Guilds)*; encouraging throughout North America the instruction in and study of gems. International Headquarters, 3142 Wilshire Boulevard, Los Angeles 5, California. See **Registered Jeweler, Certified Gemologist.**

American green jade. A Chinese trade name (Mei Kuo Lu) for a poor variety of light green jade, which because of its cheapness, became very popular with American tourists and exporters in China. The name was unheard of before World War I.

American jade. (1) Nephrite from Wyo. (2) A misnomer for **californite.**

American jet. Jet from Colorado and Utah. Former takes high polish but latter is full of cracks. Inferior to **Whitby jet.**

American National Retail Jewelers Association. A commercial association of retail jewelers. Largest and oldest in U.S.A. Founded 1906. Headquarters, 551 Fifth Ave., New York 17, N. Y.

American pearl. A term often used to refer to fresh-water pearl of North America.

"American ruby." Red garnet.

American turquoise. Turquoise from the southwestern states of U.S.A. Usually pale blue or bluish green to greenish blue. Also known as **"Mexican turquoise."**

amethyst. (1) A pale violet to a deep purple transparent variety of crystalline **quartz** used as a gemstone. February birthstone. From Siberia, Brazil, Uruguay and other sources. See **Ahlamah.** (2) A color designation, same as **amethystine.**

amethyst-basaltine. A name, mentioned by Schlossmacher, for pale reddish violet beryl.

amethystine. A color designation meaning violet to purplish, used as in amethystine glass, amethystine sapphire, and others.

amethystine quartz. Quartz of an amethyst color not necessarily

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in crystals or solidly colored or transparent. See page 255.

amethystine sapphire. Violet to purplish sapphire.

amethyst point. Hexagonal amethyst crystal from an amygdaloidal geode. Usually possesses only the six (or sometimes three) termination crystal faces and usually graduated as to color with best color at point or apex and often colorless at base See **burnt amethyst.**

amethyst quartz. **Amethystine quartz.** See page 257.

amorphous (a-mor'fus). A word meaning "without form" applied to minerals or **gem materials** that have no definite or orderly arrangement of atoms or **crystal structure** and hence no external **crystal form.** Sometimes incorrectly applied to **crystalline** minerals that lack external crystal form.

amphibole (am'fi-bole). A group of ferro-magnesium silicate minerals. This group of minerals is usually classified by German mineralogists as hornblende. See also **smaragdite.**

ampullar pearl. Any pearl such as **a true pearl** formed in the ampulla or epidermis of the mollusc, as distinguished from **cyst pearl** and **muscle pearl.**

amulet. A charm, or talisman, worn on the person to prevent disease or misfortune. Gems are so worn and may have been before man used them as adornment.

amygdaloid (a-mig'da-loid). An igneous rock having gas vesicles filled with secondary minerals.

amygdaloidal geode. (a-mig"da-loi'-dal). A geode which has formed in an **amygdaloid.** See also **geode.**

amygdule (a-mig'dule). A spheroidal aggregate of secondary minerals formed in a cavity of igneous rocks.

anaglyph (an'a-glif). Same as **cameo.**

Anakie sapphire. See **Queensland sapphire.**

analyzer. A **polarizer** placed above the objective in a polarizing microscope. In any polariscope the polarizer nearest the observer. See **polariscope.**

anatase. A transparent to nearly opaque, brown, deep indigo to black mineral. Transparent brown gems sometimes cut for collectors. An allotrope of **rutile,** and similarly of higher R.I. than diamond. Tetr. TiO_2. H. 5.5-6; S.G. 3.82-3.95; R.I. 2.49/2.53-2.49/2.56 (Dana); Bi. 0.056. From Brazil, France, Switzerland, Mass., Ark., Colo., and other sources.

anatasia (Span.). Anatase.

anatherie. Same as **anitari.**

"Ancona ruby." A reddish or brownish quartz, colored by iron.

"andalusite." Incorrect trade name (rare) for brown tourmaline. See **andalusite.**

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andalusite (an″da-lue′site). Transparent to opaque, yellow-green, brown-green or gray gem mineral. Strongly trichroic, green, red and brown. When cut with table perpendicular to prism edge, red color is usually visible and intensified under most artificial light, producing **alexandrite-like andalusite.** Ortho. Al_2SiO_5. H. 7-7.5; S.G. 3.1-3.2; R.I. 1.63/1.64-1.64/1.65; Bi. 0.007-0.013. Ceylon, Brazil, Spain and other sources. See also **"andalusite"**; **chiastolite**; **viridine.** (Derivation: Andalusia, an old division in Spain).

Anderson, B. W. (1901-.) B.Sc. Director Precious Stone Laboratory of London Chamber of Commerce 1925-. Lecturer, gemology, Chelsea Polytechnic, London. Author, *Gem Testing for Jewellers* and many articles in English and American gemological publications. Member Educ'l. Advisory Board, Gemological Institute of America, 1936-.

andradite (an′dra-dite). A species of the garnet group. Transparent to opaque. **Demantoid, topazolite** and **melanite** are varieties of andradite. Iso. $Ca_3Fe_2(SiO_4)_3$; H. 6.5; S.G. 3.8-3.9; R.I.1.82-1.94.

angle of incidence. The angle, which a ray of light, falling upon the surface of an object, makes with the perpendicular to that surface.

angle of polarization. That angle whose tangent is the index of refraction of a reflecting substance. (Dana.)

angle of reflection. The angle which a reflected ray of light, on leaving the exterior or interior surface of an object, such as a transparent stone or crystal, makes with the **normal** to that surface.

angle of refraction. The angle which a refracted ray of light, upon leaving the surface of an object, makes with the **normal** to that surface.

angle of total reflection. Same as **critical angle.**

Ångstrom unit. A unit used in spectroscopy for measurements below infra-red in the electromagnetic spectrum, which includes the visible spectrum. One ten-millionth of a millimeter.

anhydrous. Not containing hydrogen or water in its composition.

ani. Ceylon trade grade for pearls of fine luster, almost perfectly spherical in shape.

anisometric. Not **isometric.**

anisotropic (an-ei″so-trop′ik or troep′ik). Doubly refractive, affecting light differently as it passes along lines of different direction. See **refraction, isotropic; double refraction.**

anitari or **anatherie pearl.** Ceylon trade name for slightly lower quality of pearl than **ani.**

anniversary stones. The gemstones

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which are designated in the U.S.A. as being particularly appropriate for wedding anniversary gifts are to be found on the following anniversary gift list approved by the A.N.R.J.A.: First, paper; second, cotton; third, leather; fourth, books; fifth, wooden (clocks); sixth, iron; seventh, copper, bronze, brass; eighth, electrical appliances; ninth, pottery; tenth, tin, aluminum; eleventh, steel; twelfth, silk, linen; thirteenth, lace; fourteenth, ivory; fifteenth, crystal; twentieth, china; twenty-fifth, silver; thirtieth, **pearl**; thirty-fifth, **jade** or **coral**; fortieth, **ruby**; forty-fifth, **sapphire**; fiftieth, gold; fifty-fifth, **emerald**; sixtieth, **diamond**. See page 260.

anomalous. Abnormal.

anomalous double refraction. Double refraction in a normally **singly refractive** substance. Caused by internal strain. Seen by irregular extinction when substance is observed between crossed **Nicols**, as in synthetic spinel and sometimes in garnet. See **polariscope.**

anorthic system. Same as **triclinic system.**

anorthite. A basic plagioclase feldspar.

A.N.R.J.A. Abbr. for **American National Retail Jewelers Association.**

antelope jade. A descriptive term applied by Chinese to a particular color of jade.

Antero aquamarine. See **Colorado aquamarine.**

anthrax (Greek). Ruby, garnet, or other red stone.

antigorite. A brownish green **serpentine** resembling jade in appearance. H. 2.5; S.G. 2.4.

"Antilles pearl." Not a pearl but mother-of-pearl of a sea snail.

anygyi. Burmese term for second-water rubies. *(Gems & Gemology.)*

anyum. Burmese term applied to first quality two-carat rubies. (Gems and Gemology).

apatite (a′pa-tite).. A transparent green, blue, violet, purple, pink, yellow, or colorless gem mineral; except blue or green, is of light tone only. Also grey or brown, non-gem varieties. Hex. $Ca_5(F, Cl)(PO_4)_3$, H. 5; S.G. 3.2; R.I. 1.63/1.63-1.64/1.65; Bi. 0.002-0.005. Ceylon, Burma, Bohemia, Mexico, Maine, and other sources.

aphrizite. A rarely used name for black tourmaline from Norway.

aphroseline (Greek) Adularia.

aplanachromatic lens. A lens free from both chromatic **aberration** and **spherical aberration.** See **achromatic lens; aplanatic lens.**

aplanachromatic loupe. A loupe containing an **aplanachromatic lens.**

aplanatic lens (ap″la-nat′ik). A lens free from spherical aberration. See **aberration; apochromatic lens.**

aplanatic loupe. A loupe contain-

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ing an **aplanatic lens.**

aplanatic triplet. An aplanatic lens composed of three portions cemented together to eliminate spherical aberration. A more popular name for this is the term *triple aplanat.*

apple jade. A descriptive term applied by Chinese to a particular color of jade.

appraisal. The estimation or fixing of a money value on anything. such as a gemstone. Differs from **valuation** and **evaluation.**

apricotine. Trade name for yellowish-red, apricot-colored quartz pebbles from near Cape May, New Jersey, used as gemstones. (English). Other authorities mention colors from red to reddish yellow, which would be close to orange in color and nearer the predominant color of apricot.

apya. Burmese term applied to fine-quality flat rough rubies.

apyrite. A little-used name for peach-bloom colored tourmaline.

aquagem. Trade name for a light blue synthetic spinel (i.e.) a synthetic aquamarine spinel.

aquamarine (ak-wa-ma-reen′). (1) The pale or light green-blue to blue variety of beryl. H. 8; S.G. 2.68-2.75; R.I. 1.57/1.58-1.58/-1.59. From Brazil principally; also Madagascar, Russia, Ceylon and California. (2) A color designation meaning light blue to light bluish green as in **aquamarine glass; aquamarine tourmaline,** etc.

"aquamarine chrysolite." Greenish-yellow beryl.

"aquamarine emerald." Trade name for a genuine beryl or aquamarine triplet. See **"emerald triplet."**

aquamarine glass. A term loosely used for any light blue or greenish blue glass, regardless of its chemical composition or physical properties.

aquamarine sapphire. Pale blue sapphire.

"aquamarine topaz." Greenish topaz.

aquamarine tourmaline. Pale greenish blue, sometimes pale blue, tourmaline.

aquamarine triplet. A genuine triplet which is used to imitate an emerald, and often incorrectly called an **"emerald triplet."** It consists of two portions of aquamarine with a cemented layer of green coloring matter between them.

aqueous. Of, pertaining to, or partly consisting of water.

"Arabian magic diamond." Synthetic colorless or light golden sapphire.

aragonite (ar′-a-gon-ite). A mineral of chemical composition identical with **calcite** but differ-

ing from it as to crystal system, specific gravity, etc. Not a gemstone but is the principal constituent of the **pearl.** Ortho. $CaCO_3$. H. 3.5-4; S.G. 2.85-3.15; R.I. 1.53/1.68. Bi. 0.155.

arborescent (ar″bo-res′ent). Treelike in appearance.

arciscuro. Italian trade term for very dark red coral. Same as **carbonetto.**

arendalite. Dark green epidote from Norway.

argillaceous (ar″ ji-lae′ shus). Consisting of or containing clay.

Arizona peridot. Peridot from Arizona, usually found in small sizes and light tones.

"Arizona ruby." Deep red pyrope (garnet) from Arizona and Utah.

"Arizona spinel." Deep-red pyrope (garnet) from Arizona and Utah. Same as **"Arizona ruby."**

"Arkansas diamond." Rock crystal from Arkansas. See **Arkansas diamond.**

Arkansas diamond. Diamond from mine near Murfreesboro, Arkansas. See **"Arkansas diamond."**

Arkansas pearl. Fresh-water pearl from rivers in Arkansas, once a larger producer of pearls than any other state.

Arkansas stone. Not a gem. An oil or hone stone.

arlequines (Mexican). Precious opals.

Armenian stone. (1) Lapis lazuli. (2) An old name for azurite.

artificial ivory. See **ivory, artificial.**

artificial stone. A stone which is either an **imitation stone** or a **synthetic stone.**

artificial or **simulated pearl.** Same as **imitation pearl.**

Aru, Aroe, or **Aroo pearl. Fine pearl** from the Aru Islands south of Dutch New Guinea. Less silvery white than **Australian pearl.**

As. Abbr. for the element arsenic.

asah. Burmese term for third-water rubies. *(Gems & Gemology)*.

asbestos or **asbestus.** A name for fibrous varieties of actinolite, tremolite, and other amphiboles, and for chrysotile, which is a variety of serpentine which possesses unusual heat-resisting properties (Kraus and Hunt). Only actinolite of differing varieties is of gemological interest. See also **blue asbestos.**

aschentrecker or **aschentrekker.** A Dutch name for tourmaline given it when first imported to Holland from Ceylon. Meaning "ash drawer," it referred to its capacity for attracting ashes as it cooled. See **pyroelectricity.**

aschtrekker. See **aschentrekker.**

ash drawers. Early name applied to tourmaline because of its electrical property.

asparagus stone. Transparent yellowish green **apatite.**

assembled cameos. Cameos made of two or more portions cemented together. See **assembled stone; composite stone.**

assembled stone. The term introduced by Shipley in 1931 for any stone constructed of two or more parts of gem materials whether they be genuine, imitation or both. An alternate term **composite stone** was later suggested by Webster of London. See **doublet; foil back; triplet.**

asteria (as-te'ria). Any gemstone which, when cut cabochon in the correct crystallographic direction, displays a rayed figure (a star) by either reflected or transmitted light. See **diasteria; epiasteria; star.**

asteriated (as-te'ri-ate"ed). Like a star—with rays diverging from a center.

asteriated beryl. A variety of beryl which in thin sections exhibits **diasterism.** As yet of no gemological importance.

"asteriated emerald." A variety of beryl indicated by Schlossmacher in his discussion of asterism as having been reported by Bernauer, who, however, seems only to have mentioned as visible by transmitted light, a halo which, by turning, broadened into a circle. See **"star emerald."**

asteriated stone. (Asteriated ruby, sapphire, etc.) Stone exhibiting a star by either reflected or transmitted light. See also **star stone.**

"asteriated zircon." A variety of green zircon indicated by Schlossmacher in his discussion of asterism as having been reported by Brauns, who, however, mentions observing a sheen or chatoyancy such as in labradorite or cat's-eye, but not an asteria.

asterism. The optical phenomenon of a rayed figure possessed by an **asteria.** See **diasterism; epiasterism.**

asterite (French). Star quartz.

astralite glass. Mentioned by Schlossmacher as similar to aventurine glass (**goldstone**), but exhibiting a bluish glitter in a dark ground mass. Probably contains metallic bluish inclusions.

astrumite. A trade name for grey-green **Tibet stone.**

athaibouk. Burmese term applied to ¾ carat rubies.

"Atlas ore." Malachite.

"Atlas pearls." White satin-spar.

Atlas spar. Same as **satin-spar.**

Atlas stone. Same as **satin-spar.**

atom. When ordinarily used in mineralogy, or gemology, refers to the smallest particle of an element which exists either alone or in combination with similar particles of the same or a different element. See also **molecule.**

atomic plane. Any one of the layers into which **atoms** form themselves in an orderly pattern dur-

ing the growth of a **crystal.**

atomic structure. The arrangement of atoms in a substance. See **amorphous; crystal structure.**

attached crystal. One which is attached to the mother rock, usually **singly terminated.**

Au. Abbr. for the element gold.

Australian emerald. Usually light green beryl, rarely sufficiently dark to be classed as emerald in the American trade. Principally from 9 miles NE of Emmaville, New South Wales, where a few of fine color have been found. From Poonah, West Australia, and a few other localities. Mostly pale (green beryl), and badly flawed.

Australian jasper. Jasper speckled with red and light grey flecks (Eppler).

Australian opal. Any opal from Australia, but the term is often restricted to mean only the black opal. Usually fashioned in flat, polished slabs with beveled or perpendicular sides, instead of in cabochons. Smith lists S.G. as 2.12. See **black opal; light opal.**

Australian pearl. (1) A trade grade including silvery white **fine pearl** from both (a) the *Meleagrina margaritifera* which is found in the waters north of Australia and yields **Thursday Island pearl,** and (b) the *Meleagrina maxima* of the northwest coast of Australia, which yields most of the **Broome pearl.** All these pearls are much whiter and have less orient than **Celebes pearl, Manila pearl** and others from Australasia. (2) As a geographical classification, any pearl from any Australian waters, including the yellowish **Shark's Bay pearl.**

"Australian ruby." Misnomer for red garnet.

Australian sapphires. Sapphires from Australia, most of which are olive green or bluish green. The blue variety is usually very dark greenish or blackish. *As a trade term,* very dark blue or blackish sapphires.

Australian zircon. Genuine zircon from Australia including (a) brown, red or yellow varieties from near Anakie, in Queensland, which are especially sensitive to light or heat, the light yellow becoming blue by heat: (b) hyacinth from Campbell Island and (c) colorless and dark red zircon from New South Wales. See also **Tasmanian zircon.**

australite. Moldavite.

Austrian emerald. An emerald whose occurrence and inclusions are similar to **Russian emerald.** Usually cloudy to almost opaque, and of dark emerald green, or light green color, which is sometimes irregularly distributed. Rarely of gem quality. From near Salzburg, Austria.

Avanturine (German). Aventurine.

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aventurescence. Word used to describe the metallic spangled effect seen, in reflected light, in aventurine and aventurine feldspar. A sort of **schiller** but more scintillating.

aventurine or **aventurine quartz** (a-ven'tue-rin). Translucent quartz (quartz aggregate), containing very small inclusions, most of which produce a glittering sheen or spangled effect. The inclusions vary, mica inclusions producing a silvery, brassy or golden glitter or 'aventurescence, while fuchsite produces greenish aventurescence. A less metallic reddish appearance is caused by inclusions of hematite or goethite. The quartz itself may be grayish, yellowish, brownish or green. Green aventurine is the most commonly fashioned as a gem; other colors rarely.

aventurine feldspar. See **sunstone.**

aventurine glass. Same as **goldstone.**

Avicula. The genus of salt-water bivalves allied to and in some cases including the principal pearl-bearing molluscs. See **Aviculidae; Meleagrina.**

Aviculidae (av"i-kue'li-de). The family of **bivalves** which include among others the principal pearl bearing molluscs. Same as **Pteriidae.**

axe stone. Nephrite.

axes. (Plural of axis). See **crystallographic axes.**

axial angle (optic). See **optic axial angle.**

axinite (ak'sin-ite). A mineral rarely fashioned as a gem; rarely transparent, usually translucent; vitreous; brownish, grayish yellow to greenish yellow, violet to violetish blue. Hues usually of low intensity. $(Ca,Fe)_7Al_4B_2(SiO_4)_8$. Tri. H. 6½-7; S.G. 3.27-3.30; R.I. 1.67-1.68/1.68-1.69; Bi. 0.010-0.012. Also called glass schorl; glass stone; thumite.

axis. See **crystallographic axes.**

azabache (Mexican) . Jet.

azorite. A little used synonym for **zircon.**

Aztec Eagle Opal. Same as **El Aguila Azteca Opal.**

Aztec stone. A name for greenish smithsonite; also for green turquoise. See also **chalchihuitl.**

azurchalcedony. Same as **chrysocolla quartz** or **azurlite.**

azure. Lapis lazuli (Standard).

azure malachite. Same as **azurmalachite.**

azure quartz. Same as **sapphire quartz.** (Smith).

azure spar. Lazulite.

azure stone. Same as (1) **lapis lazuli;** (2) **azurite.**

"azurite." Trade term for sky-blue **smithsonite.** See **azurite.**

azurite (or chessylite) (azh'ure-ite, a'zhure-ite). A translucent to

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opaque blue mineral used principally as an **ornamental stone.** Mono. $2CuCO_3,Cu(OH)_2$. H. 3½-4; S.G. 3.8-3.9. R.I. 1.73/1.83. From Russia, Arizona and many other sources. Not often used as a gemstone, because of its inferior hardness. Somewhat resembles lapis lazuli in color. In North America it is rarely used as a gemstone. In Russia it has been extensively used as a decorative stone.

azurlite or **azurchalcedony** (azh'-ure-lite, a'zhure-lite). Chalcedony colored blue by chrysocolla, from Arizona, used as a gemstone. See **chrysocolla quartz.**

azurmalachite. Intergrowth of azurite and malachite, in compact form is cut and polished as an **ornamental stone.** When botryoidal it is sometimes fashioned as gem stones of beauty, but it lacks durability.

B

B. Abbr. for the element boron.

Ba. Abbr. for the element barium.

Babel quartz. A variety of rock crystal so named for its fanciful resemblance to the successive tiers of the Tower of Babel.

Babylonian quartz. Same as **Babel quartz.**

bacalite. A variety of amber said to be from Baja California, Mexico (English).

back (of a gemstone). The pavilion.

bacon stone (obsolete). A variety of **steatite.**

Badakshan lapis. Lapis lazuli from SE of Faisabad, Badakshan district, Afghanistan. Deep violetish blue; also green. Also deep violetish blue lapis from near Khorog, in Russian Badakshan.

"Baffa diamond." Rock crystal.

baffle. A baffle plate. A plate in an optical instrument which checks, deflects or otherwise controls light in a desired manner, as in the **Diamondscope,** in which it checks any direct rays which might pass from the source through a stone to the eye, directing them to a reflector which redirects them into the stone from the side.

bague (bag′) (French). A ring.

baguette (ba-get′). French word meaning *a rod.* A style of **step cut** for small gems, rectangular in outline. Often called cushion cut by dealers in the colored stone trade.

Bahia (ba-ee′a). A gem-bearing state or territory in Brazil. Also a name for diamonds from this territory.

Bahia amethyst. Amethyst from Bahia, generally of lighter violet tone than Uraguay amethyst but more often reddish and smoky in appearance.

Bahia emerald. Light slightly yellowish green beryl from Bahia. See **Brazilian emerald.**

bakelite. A resinoid or plastic made of phenol (carbolic acid) and formaldehyde. Used as a substitute for amber. Can be dyed various colors. S.G. 1.25-1.28; R.I. 1.54-1.70 (usually 1.62-1.66).

balance. A scale, such as used to determine S.G. or to weigh gems.

balas. (1) Same as "balas ruby." (2) A term listed by Pough as

being used in Brazil for a gem fragment of tourmaline from which the non-gem layers have been removed.

"balas ruby" (bal'as). Rose-red spinel. Differs in color from spinel ruby.

"balias ruby." Same as **"balas ruby."**

Ball, Dr. Sydney Hobart (1877-——). American geologist and authority on diamonds, diamond mining and precious stones. Author of *Gem Stone Chapter* of the *Bureau of Mines Minerals Yearbook;* and *Annual Review of the Diamond Industry; Egyptian Gemstones of Pre-Ptolemaic Days (Jewelers' Circular-Keystone, 1928); Historical Notes on Gem Mining, Precious Stone Valuation and Prices, Geological and Geographical Occurrence of Precious Stones (Econ. Geology, V. 126, No. 7, 1931); Mining of Gems and Ornamental Stones by the American Indians (Bull. 128, Bur. of Ethnology, 1941);* and many other papers and treatises in American and foreign journals. Honorary Member and Member Educational Advisory Board and Examinations Standards Board, Gemological Institute of America. 1933 -; Examining Board G.I.A. 1934 -; Jewelers Circular-Keystone 1941-

Ball, Dr. Valentine (1843-1895). Authority on economic geology of India. English translator of the best edition of *Tavernier's Travels in India.*

ballas. An important industrial variety of the diamond. Spherical masses of minute diamond crystals arranged more or less concentrically. Does not cleave easily—hard and tough.

ball jasper. Jasper which occurs in spherical masses.

ball pearl. Name given to round pearl by pearlers at the inland fisheries of the United States.

Baltic amber. (1) In the jewelry trade, a name usually confined to **succinite,** which is found on shores of all countries on the Baltic Sea. (2) According to some authorities succinite and gedanite, which are the only Baltic fossil resins often seen in the trade. (3) **Succinite, gedanite, glessite, beckerite, krantzite and stantienite,** (Schlossmacher).

Baltimorite. Picrolite from Maryland.

banco (pl. bancos). The series of benches each about one meter in height, cut from hillsides in emerald mines of Colombia (Gems &. Gemology).

banded agate. Agate with colors usually disposed in parallel bands, which are more or less wavy. Most agate in the trade is dyed and bands are of differing tones due to their varying ability to absorb dye. See **agate; onyx; chalcedonyx; chalcedony onyx.**

banded jasper. Jasper banded like agate, frequently in distinct colors.

banded obsidian. Obsidian with dif-

ferently colored irregular bands.

Barbara beryl. Term applied to beryl from near Barbara in northeastern Transvaal, a source of African emerald.

Bareketh or **Bereketh.** Third stone in Breastplate of High Priest. Often translated as emerald, but probably amazonite. Engraved with the name of Levi.

barium glass. Glass of unusually high S.G. and high R.I. used rarely in the manufacture of imitation stones.

baroda gem. A name used by one manufacturer for an **imitation foil back** which simulates a diamond brilliant.

baroque (ba-roke′). Any pearl of very irregular form.

baroque pearl (ba-roke′). Any pearl of very irregular form, including slug pearl. See also **oriental baroque.**

barrok or **barock pearl.** Baroque pearl.

basal. Parallel to the basal pinacoid of a crystal; a direction perpendicular to the principal axis of a **prism.**

basalt (ba-solt′ or bas′olt). A basic igneous rock, dark and compact.

basalt glass. A black glassy form of basalt (Webster). Of no gemological interest.

basanite (baz′a-nite). (1) Lydian stone, or touchstone. Velvety black quartz used for testing the color of the streak of metals. Not a gemstone. (Kraus) (2) Black jasper (Dana; Eppler).

base. (1) The portion of a cut stone which is below the girdle; the pavilion. (2) The basal plane of a crystal. (3) Same as **base price.**

base price (of pearls). The price of a single pearl is computed by squaring its weight in grains and multiplying the result by the base rate. This scheme of establishing the price of a pearl takes into consideration the fact that small pearls are many times more common than large ones and that their value therefore increases as the square of their weight. For example: The price of a pearl weighing 8.64 grains, the base rate of which is $11, is $821.15. (This is computed as follows: $8.64 \times 8.64 = 74.65$. The latter (when multiplied by the unit of money in any country) is known as the "once." Multiplying 74.65 by $11 base = $821.15, which is the price of an 8.64 grain pearl at $11 base.) If there are two pearls of approximately equal size, weighing 10 grains with a base rate of $9 they are figured as follows: $10 \div 2 = 5$ grains. 5×10 grains $= 50$ (once). 50 × $9 = $450. Expressed as a formula: the average size, times the total weight, times the base rate = the price of a group of pearls.

basic igneous rocks. Those low in silica; heavy and generally dark-

Titles within **quotation marks** are misnomers. Every unusual word or term used is defined in this book and if printed in **bold faced type** its entry should be consulted. To fully understand the definitions, read the introductory pages.

colored.

baskets. Brass sieves used in Ceylon for separating pearls of different sizes. See **peddi.**

bastard amber. Cloudy amber.

bastard emerald. Peridot.

"bastard jet." A soft variety of Canadian jet.

bastard quartz. A miner's term for white glassy quartz found unassociated with other minerals.

bastite. A light green bronzite, altered more or less completely to **serpentine.** H. 3.5; S.G. 2.5-2.7. Also called schiller spar.

bati xaga. Term meaning arrow obsidian used by Pomo Indians of California for obsidian which was not as hard as **dupa xaga** (S. H. Ball).

Bauer, Dr. Max H. (1844-1917). Professor of Mineralogy, Marburg University, Germany. Author of the celebrated *Edelsteinkunde*, 1896. 2nd Edition 1909.

Bauer-Spencer. Term used in this book for Spencer's English translation of Bauer's *Edelsteinkunde.* See **Bauer; Spencer; Schlossmacher.**

Baumstein (German). Tree stone. Same as **mocha stone.** See **Moosstein.**

"Bavarian cat's-eye." Quartz cat's-eye, from Hof and other locations in Bavaria which produce only a few stones of fine quality. Other qualities usually sold as "Hungarian cat's-eye." Quartz cat's-eye from Harz Mountains in north of Germany is sometimes sold as Bavarian cat's-eye.

bayate. A local name for a brown ferruginous variety of jasper from Cuba. (English).

Bazaruto pearl. True pearl from Bazaruto Islands near Zanzibar. See **African pearl.**

bdellium. (dell'i-um). A substance mentioned in Genesis (II. 12). Variously translated by different authorities to be pearl, a red stone, a resin, or no stone at all but manna.

Be. Abbr. for the element beryllium.

beccarite. An olive-green **alpha zircon** from Ceylon. S.G. 4.7; R.I. 1.93/1.98. Biaxial positive.

Becke method or test. A determination of R.I. by observation through microscope of a line (so-called Becke line), which appears at edges of minerals when immersed in liquids of different R.I.'s. Useful in identifying small fragments of opaque gems or their imitations.

beckerite. A **fossil resin.**

"beckite." Same as **beekite.**

beef blood ruby. Term used in England for a subdivision of Burma rubies. Darker tone of red than pigeon's blood. See **pigeon blood ruby.**

beekite. Silicified coral. See especially **coral agate.**

Beilby layer. The mirror-like sur-

face layer, on all well-polished stones other than diamond, which seems to be caused by a fusion of tiny surface projections on the stone during the polishing operation. In corundum and quartz this layer is crystalline; in zircon and spinel it is amorphous and "pits" more easily than other stones (Smith).

belgite. Same as **willemite.**

bell pearl. Bell- or pear-shaped pearl.

belomorite. A variety of moonstone from near the White Sea (Russia).

"Bengal amethyst." Purple sapphire.

benitoite (be-nee'toe-ite). A transparent pale blue to deep blue colored gem species found only in San Benito County, Calif. In color resembles the sapphire, but is easily distinguished because of inferior hardness and distinctly different dichroic colors. Hex. $BaTiSi_3O_9$. H. 6-6½; S.G. 3.6; R.I. 1.76/1.80. Bi. 0.047. Disp. 0.039-0.046 (very high.) Discovered 1907.

Bereketh. See **Bareketh.**

berigem. (Copyrighted name). Chrysolite-colored synthetic spinel.

berilo (Span.); **berilo** or **berilio** (Port.); **berillo** (Ital.). Beryl.

berilo verdemar (Span.). **Aquamarine.**

berkeyite. A transparent variety of **lazulite** from Brazil.

Berman balance. A sensitive torsion spring balance made by Roller-Smith Co. for rapidly and accurately determining the S.G. of stones weighing less than 2 carats. See **specific gravity.**

Bernstein (bearn' shtine). German name for amber.

beryl (bare'il). A mineral species which includes the gem varieties **aquamarine, emerald, morganite, heliodor** and other colored beryl. Emerald is less tough and hard than other varieties. Hex. $Be_3Al_2(SiO_3)_6$. H. 8 (emerald 7½); S.G. 2.6-2.9; R.I. 1.56/1.56-1.59/1.60; Bi. 0.005-0.008; Disp. 0.014.

beryl cat's-eye. Beryl with a **cat's-eye effect.** (Schlossmacher, Smith). Extremely rare.

beryl glass. Same as beryllium glass, or fused beryl. Includes emerald glass colored with chrome oxide, and a blue glass used for imitation gems. H. 6½; S.G. 2.44; R.I. 1.51-1.52 (Anderson).

berylite (copyrighted name). Rose-colored synthetic spinel of same color as balas ruby.

berylline. Like a beryl (Webster).

beryllium. An element (metallic). A principal constituent of beryl. See also **beryllium glass.**

beryllium glass. Consisting either of same chemical composition as that of the mineral beryl, or so closely approaching it as to be analysis proof, but not crystal-

line. See **beryl glass.**

beryllonite. A mineral little used as a gem. $NaBePO_4$. H. 5½-6. S.G. 2.8; R.I. 1.55-1.56. Bi. .012; Disp. 0.010. Transparent and colorless to yellow. Gem quality from Stoneham, Maine, only.

beryloscope. A color filter, same as the **emerald glass.**

beryl triplet. Correct name for a genuine triplet made from two portions of greenish or colorless beryl with a cemented layer of green coloring matter between them. Often incorrectly called **emerald triplet.**

beta quartz. Quartz which has formed at high temperatures (573° to 870°) as in graphic granite, granite pegmatites and porphyries. Has lower R.I. and Bi. than **alpha quartz** (Dana). Topaz quartz, which has been heated, corresponds to beta quartz (Wild).

beta zircon. Mineralogical name for any zircon with properties intermediate between alpha and gamma zircons. In the heat process used to change zircon colors the properties are converted into those of alpha zircon. See **zircon, alpha zircon, gamma zircon.**

betel nut jade. A descriptive term applied by the Chinese to a particular color quality of jade.

bevel cut. A term applied to any style of cutting with a very large table, joined to the girdle by one or sometimes two bevels, and a pavilion which may be step cut, brilliant cut or any other style. Used mostly for opaque stones, and often intaglios. Bevel cut shapes include: round, square, cushion, rectangular, oblong, oval, pendeloque, navette, heart, diamond, horseshoe, shield, pentagon, and hexagon shapes. The style is used predominantly for less valuable gems. Also known as **table cut.**

bezel (bez'el or bez'il). All that part of a facetted gemstone lying above the girdle. See page 257.

bezel facets. The eight facets on the crown of a round brilliant cut gem, the upper points of which join the table and the lower points, the girdle. If the stone is a cushion-shaped brilliant, four of these bezel facets are called corner facets.

bezil. Same as **bezel.**

Bi. Abbr. used in this book for **birefringence.** See also **D.R.**

bianco. Italian trade-name for white precious **coral.** The word means *white.*

biaxsal or **biaxial** (bie-ak'sal or bie-ak'si-al). Having two **optic axes** and, therefore, two optic directions, a property possessed by crystals of the orthorhombic, monoclinic and triclinic systems only, all of which are anisotropic. See **biaxial stone.**

biaxial stone. Stone having two di-

rections of single refraction. See **biaxial.**

B.I.B.O.A. Abbr. for the European international federation of the industrial craft or trade associations of diamond, pearl or gem dealers, goldsmiths, silversmiths, watchmakers and jewelers. Headquarters, 1 Noordeinde, The Hague, Holland.

"bicycle tires." Brilliant-cut diamonds with girdles which are too thick.

bijouterie (bee″zhoot-ree′) (Fr.) General term applied to all jewelry in which metal work is most important. See also **joaillerie.**

bike. Same as **boke.**

billitonite. Moldavite (tektite) from Billiton Island, Dutch East Indies.

binarite. An obsolete synonym of **marcasite.**

binocular microscope. See **microscope.**

biological. Of or referring to biology.

biology. The science of life; the branch of knowledge which treats of organisms; includes fishes and pearls.

bion. An alterate spelling of **byon.**

bird's-eye quartz. Jasper containing minute spherulites of usually colorless quartz.

birds'-eyes. Term applied by American fishermen to pearls which have slight imperfection on the best surface.

birefringence (bie″re-frin′jenz). (1) Double refraction. (2) More specifically, in American gemology a term meaning the strength or measure of double refraction; the amount being measured by the difference between the R.I.'s of the ordinary and extraordinary rays in uniaxial stone; between alpha and gamma rays in biaxial stones. This difference is expressed by numerals, as, Bi. 0.006 for danburite, the R.I. of the alpha ray being 1.630 and of the gamma ray being 1.636. Bi. is measurable by Tully refractometer and other instruments, but in only zircon, 0.059, peridot, .038 and a few others is sufficiently strong to be visible under a strong loupe. In most species this difference varies in different specimens, and in this book the numerals such as those above indicate the average or **mean birefringence,** unless two sets of numerals are listed as, 0.047-0.052. See **double refraction; D.R.**

Birne (German). Same as **boule.**

birthstones or **natal stones.** Gems suitable to the birth month worn only since about 1562. Choice of gems is traced to the twelve stones in the Breastplate of the High Priest (Ex. XXVIII) and the twelve Foundation Stones (Revelation XXI). The list has varied from time to time. In U.S.A. the accepted list estab-

lished by A.N.R.J.A. in 1912 and revised by American Gem Society in 1938, specifies: Jan., garnet; Feb., amethyst; Mar., bloodstone or aquamarine; Apr., diamond; May, emerald; June, pearl or moonstone; July, ruby; Aug., sardonyx or peridot; Sept., sapphire; Oct., opal or tourmaline; Nov., topaz or citrine (topaz quartz); Dec., turquoise or lapis lazuli. In England the Nat'l. Assn. of Goldsmiths' list specifies the same with the additions of rock crystal for April; chrysoprase for May: carnelian for July; lapis lazuli for November, and the omission of citrine for November.

Biseau cutting. Same as **bevel cut.**

bishop's stone. Amethyst.

bivalve (bie'valv). A mollusc having two shells. See **univalve.**

bizel. Same as **bezel.**

black amber or **stantientite.** A fossil resin of rare occurrence.

black andradite garnet. Melanite.

black and white onyx. Onyx with alternate black and white bands, from which many cameos are cut. The black bands are sometimes produced (permanently) by artificial process.

black chalcedony. Correct designation for most of the so-called **"black onyx."**

black coral. Coral-like, intense black to dark brown, horny substance, distinct from precious coral. H. 2½-3; S.G. 1.5. Used in beads, bracelets, art objects, etc., and highly regarded by natives of East Indian Islands. Found in Malaya, Red Sea, Bermuda and the Mediterranean. Some pieces are 2½ ft. long. See **king's coral.**

"black diamond." Hematite. See **black diamond.**

black diamond. (1) Carbonado. (2) Black gem diamond. (3) Deceptive name for **hematite.**

black garnet. Melanite (andradite garnet).

"black onyx." Incorrect name for black single colored agate or chalcedony which is usually colored artificially. Properly called **black chalcedony.** See **onyx.**

black opal. Opal of black or other very dark color exhibiting play of color. Fine specimens from Australia are most desirable of opals. See **Lightning Ridge opal.**

black pearl. A trade name which in the narrowest usage refers to a black or almost black pearl, or sometimes to a grey pearl; but in its broadest sense refers to a brown or a dark blue, blue-green, or green pearl with a pronounced metallic sheen.

"Black Prince's Ruby." A famous red spinel in the British Imperial State Crown, once thought to be a ruby. Still uncut. Length almost 2 inches, or 5 cm. Weight

unrecorded.

black seed pearl. Very small blackish pearl from the *Pinna* mollusc. See **seed pearl.**

"black-shell pearl." Mollusc shells of which nacreous lining has a black edge.

bladed. In mineralogy, elongated and flattened like a knife blade (Kraus and Hunt).

bleached pearl. Pearl which has been lightened in color. See **over-bleached pearl.**

blebby. Containing bubbles, cavities or vesicles.

blende. Same as **sphalerite.**

blended pearls. Pearls blended in a necklace according to close similarity of hue, tone and intensity of color. See **matched pearls.**

blister cultured pearl. See **cultured pearl.**

blister pearl. Pearly concretion attached to the shell and therefore not **true pearl.** Flattened, irregular and sometimes contains clay, water, etc., and occasionally a true pearl. See **true pearl.**

block amber. Natural amber, as it has been found; as distinguished from pressed **amber.**

blood agate. (1) Flesh-red, pink, or salmon-colored agate from Utah. (2) **Hemachate.**

blood coral. Name sometimes applied to intense red coral.

blood ironstone. Hematite.

blood jasper. Bloodstone.

bloodstone. Same as **heliotrope,** an impure variety of chalcedony. Also an ancient name for **hematite.** See **plasma.**

"blue alexandrite." Incorrect name for alexandrite-like sapphire.

blue amber. Trade name for desirable cloudy amber tinged a pale watery blue.

blue asbestos. Same as **crocidolite.**

bluebacks. Shell of a variety of **Haliotis.**

blue chalcedony. See **"sapphirine."**

blue chrysoprase. Chalcedony colored by inclusions of chrysocolla. Same as **chrysocolla quartz, azurlite and azurchalcedony.**

blue coral. A variety of **akori.**

blue earth. A greenish sand in which succinite occurs in East Prussia.

blue-gray. In **color nomenclature system** of North American gemology, a color midway between vivid blue and **neutral gray.**

blue-green. In **color nomenclature system** of North American gemology the hue midway between blue and green. Same as **green-blue.**

blue ground. Bluish gray to greyish kimberlite as it comes from the diamond pipes. See **kimberlite.**

blue jasper. See **"Swiss lapis."**

blue-john. English name for bluish violet to purple massive fluorite, often banded in color. (Smith)

"blue malachite." Incorrect name for **azurite.**

"blue moonstone." Bluish chalce-

dony. See **blue moonstone.**

blue moonstone. Term frequently applied to fine quality precious moonstone of bluish tinge; also incorrectly applied to chalcedony artificially colored blue.

"blue onyx." Incorrect name for single colored blue agate or chalcedony which is dyed blue.

"blue opal." A misnomer for lazulite. See **blue opal.**

blue opal. Precious **Australian opal** from Queensland, with bluish body color.

blue pearl. Dark-colored pearl of opaque slate-blue color sometimes caused by a layer of conchiolin near the surface. Also may be caused by a center of mud or silt, although recent investigation indicates that the color is usually caused by various impurities in the **aragonite** (or calcite). See **pearl.**

blue point pearl. Pearl from a fresh-water mussel *(Quadrula undulata)* known as blue-point or three ridge mussel, which was largest North American producer of pearl.

blue schorl. (1) The earliest name for octahedrite. (2) Blue tourmaline.

blue spar. Lazulite.

"blue talc". Cyanite.

blue-violet. In **color nomenclature system** of North American gemology the hue midway between blue and violet. Same as **violet-blue.**

blue white. (1) A term most often used, except in the jewelry trade, to mean a color more white than blue. (2) In the North American jewelry trade, a term once used for a **color grade** of diamond, which, to experts, appeared (a) more bluish than yellowish in diffused daylight free from bluish reflections, or (b) colorless when examined by **transmitted light.** Now widely used for any diamond color grade between (a) that grade which appears colorless in transmitted light, and (b) any grade with a yellowish tinge which is not apparent to the average inexperienced purchaser.

blue zircon. Zircon which, by heating, has been changed from a naturally occurring color, usually grayish or brownish, to some hues or tones of blue. No natural occurrence of zircon of any pronounced blue color has ever been authenticated, although it was once reliably reported that very pale blue, almost white, zircon had been found in Ceylon.

bluish gray. In **color nomenclature system** of North American gemology, a color midway between blue-gray and neutral gray.

bluish green. In North American gemology the **hue** midway between green and blue-green, and hence more green than blue.

bluish violet. In North American

gemology the hue midway between violet and blue-violet. More violet than blue.

bluish white. In North American gemology, a color which is whiter than **blue white.**

boart. Same as **bort.**

Bobrowka garnet (bob-roff'ka). Classified in some gem references as **grossularite** and in others as **demantoid**, with the latter classification predominating.

bocco de fogo (Brazilian). Crystals of green tourmaline with pink centers. (Pough)

body appearance (of a stone). The optical effect produced by internal structure, such as laminations or numerous small and widely distributed inclusions or fractures. Often called **sheen** in translucent to opaque stones.

"Bohemian chrysolite." Moldavite.

"Bohemian diamond." Rock crystal.

Bohemian garnet. A term loosely used for any dark, intense red **pyrope.** See page 257.

Bohemian glass. A potash lime glass made in Czechoslovakia. Used to make cheap imitation stones but principally for table ware.

"Bohemian ruby." Red, or rose quartz. Although ruby does occur in Bohemia, it is not suitable for fashioning into gems.

"Bohemian topaz." (1) Citrine or **topaz quartz.** (2) Yellow fluorite.

boke. A pale quince-colored coral from Japan.

Boley gauge. A Vernier slide **gauge.**

bolivarite. Probably **variscite** from Spain. (Dana)

Bolivian jasper. A red **jasper** from Bolivia, So. America.

Bombay pearl. Usually a **cream rosé pearl** but may be any **Persian Gulf pearl, Red Sea pearl,** or other **pearl** which is commonly marketed through Bombay, on west coast of India.

bonamite (boe'na-mite). A jeweler's trade name for an apple-green **smithsonite**, resembling chrysoprase in color, from Kelly, New Mexico. Named "bonamite" by Goodfriend Brothers, N. Y. from the French *bon ami* meaning "good friend." Now rarely seen.

bone amber or **bony amber.** A variety of amber more opaque than cloudy amber and resembling bone or ivory in appearance. White to brown. Takes an inferior polish. Same as **osseous amber.**

"bone turquoise." Fossilized bone or teeth naturally stained blue. A substitute for turquoise for which artificially stained bone or teeth are in turn often substituted.

boort. See **bort.**

borosilicate glass. An unusually hard glass used for imitation stones, especially aquamarines.

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H. 5½ to almost 7. S.G. 2.3-2.4; R. I. 1.47-1.51.

bort. (bortz, boort, boart, or bowr). A round form of poorly crystallized diamond, dark in color; translucent or opaque. Cleavage is difficult. Used for industrial purposes. "In the trade the definition of 'bort' is extended to all impure diamonds and even to fragments and powder of gem diamonds, provided on account of their small size or because of impurities, they are valueless as gem stones." (S. H. Ball). Mineralogically, however, bort is a distinct variety of the diamond species.

bortz. Same as **bort.**

botch. A worthless opal.

botryoidal (bot-ri-oi'dal). In mineralogy, closely united spherical masses resembling a bunch of grapes.

bottle stone. (1) Moldavite. (2) An old name for chrysolite. (3) A little-used term for any mineral which can be melted directly into glass.

bottom (of a gemstone.) The **pavilion.**

boulder opal. Term used by miners for nodules of siliceous ironstone of concretionary origin containing precious opal and occurring in the opal-bearing sandstone and clay of Queensland, Australia.

boule (bool). French, meaning a ball. A pear- or carrot-shaped mass of alumina that forms during the production of synthetics.

bourguignon pearls. An obsolete name for wax-filled imitation pearls.

Boutan, Louis Marie August (1859-——). Professor of Zoology, Institute of Science, Algiers. Author of *Etude sur les perles fines et, en particulier, sur les nouvelles perles complètes de culture japonaise*, 1921; *Nouvelle etude sur les perles naturelles et sur les perles de culture*, Paris, 1923; and of *La perle*, Paris, 1925.

bouton (boo'ton). French term for button pearl.

bowenite. A fine-grained massive variety of **serpentine** resembling nephrite (jade) in appearance and sometimes sold as such. H. 5-5½; S.G. 2.6-2.8; mean R.I. varies from 1.50 to 1.55. From China, New Zealand, India and Rhode Island.

"bowenite jade." Same as **bowenite.**

bowr. See **bort.**

Braganza Topaz. A colorless topaz of 1680 c. of unusual beauty and clarity in Portuguese crown. Has been erroneously known as the Braganza Diamond.

Brauns, Reinhard Anton, (1861-1937). Outstanding German mineralogist, particularly interested in gemstones. Author among other books) of *Chemische mineralogie* (1893); *Min-*

eralogie (1900); *Das Mineral Reich* (1903-4) which was translated by L. J. Spencer as *The Mineral Kingdom* (1908).

Braunschweiger clear amber. German trade grade of amber; medium color quality; dark yellow. See **clear amber.**

Brazilian amethyst. (1) Any amethyst from Brazil. Principally from (a) Brejinha Mine, Bahia, (deep velvety purple); and (b) Rio Grande do Sul (violet to purple to bluish violet). Also from Minas Geraes and Espirito Santo Goyaz, and Diamantina. (2) As a trade grade in U.S.A., purple to brownish purple, sometimes with patchy or streaky color.

"Brazilian aquamarine." Greenish topaz. See **Brazilian aquamarine.**

Brazilian aquamarine. Aquamarine from various gem-bearing districts of Minas Geraes, Brazil. Many of very large size, but until the discovery of the process of heat treatment to improve color, were not as fine blue as **Madagascar aquamarine.**

Brazilian cat's-eye. Chrysoberyl cat's-eye from the state of Minas Geraes, Brazil. Inferior to Ceylon cat's-eye. Eppler states that cat's-eye formerly found in Ceylon was less translucent and more grey-brown to yellowish.

Brazilian chrysoberyl. Chrysoberyl from near Minas Novas. Often of large size and finest greenish yellow color.

"Brazilian chrysolite." Same as **chrysolite chrysoberyl.**

Brazilian-cut brilliant. A cushion-shaped brilliant, with eight additional facets around the culet, making 66 facets. Term has also been used synonymously with **old mine cut.**

"Brazilian diamond." Rock crystal from Brazil. See **Brazilian diamond.**

Brazilian diamond. A trade term for gem diamonds from Brazil, which are in general of better color than those from South Africa.

"Brazilian emerald." Green tourmaline. See **Brazilian emerald.**

Brazilian emerald. Light yellowish green beryl from Bahia and Minas Geraes. That from Bahia and most from the other sources is probably too light to be gemologically classed as emerald. S. G. 2.67-2.72.

"Brazilian onyx." An incorrect trade term for onyx marble of superior color, from Argentina.

"Brazilian pebble." Rock crystal (quartz).

"Brazilian peridot." Light yellowish-green tourmaline.

"Brazilian ruby." Rose-red or pink topaz, either naturally or artificially colored. See **pink topaz.**

"Brazilian sapphire." Light-blue or

greenish topaz. Also, blue tourmaline.

Brazilian topaz. True yellowish topaz. Same as **precious topaz.**

break facets. The triangular facets which adjoin the girdle of a brilliant cut; the 16 above are called top break facets and the 16 below, the bottom break facets.

brazilianite. Yellow-green to light greenish yellow. Transparent to translucent. Cut for collectors. Resembles chrysoberyl, yellow-green or chrysolite beryl, peridot, demantoid garnet and chrysolite tourmaline. R.I. and S.G. near prehnite. Mono. $Na_2Al_6P_4O_{16}(OH)_8$;H.5½;S.G.2.94;R.I.1.598/1.625; Bi. 0.019. First found in Bahia, Brazil, later at North Groton, N. H.

Breastplate of the High Priest. Hebrew "hoshen," exact meaning of which is obscure, but the directions for making the Breastplate are sufficiently clear in Ex. XXVIII, 13-30 and XXXIX, 8-21. A species of pouch adorned with precious stones. Worn by the High Priest when he presented, in the Holy Place, the names of the Children of Israel.

breccia. A rock in which angular fragments have been naturally embedded or cemented. See **conglomerate.**

brecciated. Containing angular fragments naturally embedded or cemented in the stone.

"Briancon diamond." Quartz.

Briggs, Henry E., Sc.D. (1906–). Author of *The Encyclopedia of Gems.*

Briggs Scale. A table of comparative tenacity or toughness of gemstones, compiled from original experiments by Henry E. Briggs, the author of *An Encyclopedia of Gems.*

"Brighton diamond." Rock Crystal.

"Brighton emerald." Green bottle glass.

brilliance. Same as **brilliancy.**

brilliancy. (of a gemstone.) The amount of light reaching the eye as a result of (1) reflections from the internal surface of facets (called total internal reflection); and (2) reflections from the external surfaces of the table and other facets of a gemstone. See **total reflection, luster, scintillation.**

brilliant. (1) Most correctly, a **brilliant cut** diamond. (2) Less correctly, any brilliant cut gemstone, especially a colorless glass imitation. See **single cut, Swiss cut, full-cut brilliant, standard brilliant.**

brilliant cut. The most popular cut for most stones; with round girdle outline and usually 58 facets, sometimes less and often more. See **full cut brilliant, single cut.**

Brinnell hardness. A hardness test for minerals or similar substances accomplished by measuring the comparative depth to which a hard steel point or ball

penetrates the substance.

briolette (bree″o-lett′). (1) A drop-cut, usually elongated pear-shaped stone covered with transverse rows or bands of triangular, or sometimes rectangular facets; usually, but not necessarily, without a girdle, and rarely with a table (Schlossmacher). (2) A term used to mean **drop cut** or **pendeloque.** See page 257.

"Bristol diamond." Rock crystal.

British amber. A term which has been used for amber washed ashore on beaches of England, probably from Baltic Sea. Clear or cloudy, yellow or greenish yellow and rarely wine color.

brittle. Mineralogical term meaning not flexible, ductile, i.e., that a stone will crumble under a knife or hammer, but not necessarily that it is fragile.

"brittle amber." Gedanite.

broker. One who buys and sells. In the jewelry trade one who buys from, and sells to, both the trade and the public, although a few brokers sell only to the trade.

bromoform. A heavy liquid, S.G. 2.90. Gems of higher S.G. will sink, those of lower S.G. float in it.

broncita (Span.). Bronzite.

bronze pearls. The variety of so-called black pearls with bronze-like color and sheen.

bronzite. A variety of **enstatite.**

"bronzite cat's-eye." Bronzite with a **chatoyant effect.**

brookite. A mineral fashioned rarely as a gem even for collectors. Same composition as **rutile.** Ortho. TiO_2; H. 5.5-6; S.G. 3.9-4.1; R.I. 2.58/2.74. Urals, Mass., N.Y. and other sources.

Broome pearl. Australian pearl marketed through Broome, Western Australia.

brown. In **color nomenclature system** of North American gemology a range of colors which includes **red-brown, orange-brown, yellow-brown, reddish brown, orangy brown** and **yellowish brown.**

"brown hematite." Limonite.

"brown hyacinth." Vesuvianite.

brownish orange, brownish red, brownish yellow. In North American gemology, colors which, respectively, are lower in **intensity** and darker in **tone** than orange, red or yellow, but not as dull or dark as **orange-brown, red-brown, yellow-brown.**

brown-orange, brown-red, brown-yellow. In **color nomenclature system** of North American gemology colors which, respectively, are approximately midway between (a) vivid orange, red or yellow and (b) the **tone** and **intensity** of brown which is almost black. Same as **orange-brown, red-brown, yellow-brown.**

bruciato. Italian trade name for dark brown to blackish coral,

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discolored by having lain on bottom of sea. Lowest quality of precious **coral.** The word means *burnt.*

bubbles. Globules of air or gas or globular vacuums such as in synthetic or imitation stones. In the trade, inclusions of small crystals of similar or different minerals are, erroneously, also called bubbles.

buckhorn pearl. A **fresh-water pearl** which rarely occurs in spherical form in the Mississippi Valley mussel *Tritigonia verrucosa,* popularly known as the "buckhorn clam."

buffed top. A term used for any stone which is faceted below the girdle, with a slightly convex surface above the girdle produced by polishing on a buff instead of a metal lap.

buff stick. A piece of stick covered with leather or velvet and charged with emery or other powder used in polishing. (Century).

buff-top. Same as **buffed top.**

bulb opal. Menilite opal.

bullhead pearl. A **fresh-water pearl** from the North American mussels *Pleurobema oesopus* popularly known as the "bullhead clam."

bull's-eye. Labradorite with a dark sheen.

Burma jade. Same as **Burmese jade.**

Burma moonstone. Moonstone (feldspar) from Burma, which during recent years has included fine **blue moonstone.**

Burma ruby (or Burmese ruby). Trade term for the finest colored rubies whether or not from Burma, where most of them are mined.

Burma sapphire. Term often used in America for fine royal blue sapphire whether or not from Burma. Same as **oriental sapphire.**

Burmese jade or **Burmese jadeite.** Finest known jadeite. From mines in Mogaung, subdivision of Myitkyina district, Upper Burma. The term Burma jade is commonly used in the Orient to distinguish it from any and all varieties of nephrite (jade). Same as **soda-jadeite.**

Burmese spinel. Red spinel and flame spinel found in perfect octahedra and fine gem quality in alluvial deposits near Mogok in upper Burma, in association with rubies which are usually water worn.

burmite. Amber found in Burma. Generally pale yellow, but reddish and dark brown specimens are also known. Slightly harder than **Baltic amber.** See also **Chinese amber.**

burnt amethyst. Term applied to artificially colored yellow transparent quartz **(topaz quartz)** which, unlike poorly colored yellowish quartz **(citrine),** is largely produced by heating

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natural amethyst of brownish hue. See **"burnt stone."**

burnt cairngorm. Term applied to that **topaz quartz** which has been changed from the color of cairngorm **(smoky quartz)** to topaz color. See also **burnt amethyst; burnt stone.**

burnt coral. Dark brown or blackish coral discolored by having lain at bottom of sea. Same as **bruciato.**

burnt stone. A stone such as topaz, aquamarine, etc., the color of which has been changed by burning or heating. See **blue zircon; topaz quartz, heated stone.**

burnt topaz. Genuine topaz which has been altered in color to **pink topaz.**

bustamite. Greenish to reddish grey rhodonite.

butterfly pearl. A pearl from the Mississippi Valley mussel *Plagiola securis* popularly known as the "butterfly clam." One of the finest of **fresh-water pearls** (Kunz). This clam was abundant only in Illinois and Ohio Rivers (Cattelle). More recent reports of pearl production make no mention of the continued finding of pearls in this mussel.

button onyx or **button opal.** Names for an **opal agate** with alternating bands of black chalcedony and common opal.

button pearl. Dome-shaped pearl with one surface almost plane.

"Buxton diamond." An English name for rock crystal.

byon or **byone.** Burmese name for the **alluvial deposits** in which rubies are found.

byssolite. A name unnecessarily coined for a variety of quartz containing inclusions of greenish fibers of, probably, **actinolite** or **asbestos.** Differs from byssolite, a mineral of no gemological interest. See **sagenitic quartz.**

byssus (bis'sus). The threads secreted by glands in the foot of certain shellfish, for attachment to hard bodies or to one another.

C

c Abbr. used in this book for carat.

C. Abbr. for (1) the element carbon, and (2) **centigrade.**

Ca. Abbr. for the element calcium.

cabinet stone. An especially fine specimen of a gem or mineral; a collector's item.

cabochon. An unfaceted cut stone of domed or convex form, or the style of cutting itself. The top is unfaceted and smoothly polished; the back or base, usually flat, or slightly convex, and unpolished. The height of the domed top is varied to accomplish various desired effects. With convex top and flat base it is called a *simple* or *single cabochon;* with convex top and base, a *double cabochon.* All asterias, cat's-eyes, and girasols, most moonstones, opals and turquoise, are cut cabochon (or s p h e r i c a l), as well as many translucent or semitransparent jades and other gem minerals. Less desirable specimens of various gem varieties are also sometimes cut cabochon. The girdle outline may be oval, round, square or any other shape. The backs of almost all transparent or semi-transparent cabochons are polished. See **hollowed cabochon; lentil; tallow top; shell.**

cabocle. A compact rolled pebble resembling red jasper, supposed to be hydrous aluminum-calcium phosphate. Found in the diamond-producing sands of Bahia, Brazil (Standard).

cabra stone. Fluorite.

cabujon (Span.). Cabochon.

cachalong (kash'oe-long) or **cacholong.** A pale bluish white, opaque or feebly translucent, porcelain-like variety of **common opal.** Highly regarded in the Orient, but of little gemological interest in the Occident, although, banded with chalcedony, it has been cut as cameos.

caesium. A metallic element.

cairngorm. Same as **smoky quartz.** A Scottish name. It has also been loosely used for any variety of quartz, and even for a style of large brooch in which quartz gems are set. From Scotland and other sources.

calaite or **kalaite.** Mentioned by Bauer in 1909 as mineralogical name for turquoise. See **callaica.**

calamine. European name for both a carbonate of zinc and a silicate of zinc. The former is classified in U.S.A. and England as **smithsonite;** the latter (a non-gem mineral) as calamine or **hemimorphite.**

calcareous. In mineralogy, compos-

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ed of, containing, or in the nature of calcite. In general, consisting of or containing calcium carbonate ($CaCO_3$).

calcédoine (Fr.). Chalcedony.

calcedonia (Span. and Port.). Chalcedony.

calcedonia veteada (Span.). Cacholong.

calcedony. A corrupt and little-used spelling for **chalcedony.**

calcite (kal′site). A mineral; usually white or colorless; often colored with impurities. See **onyx marble, satin spar.** Colorless transparent varieties are **Iceland spar** or **optical calcite.** Hex. $CaCO_3$. (Carbonate of lime or calcium carbonate). H. 3; S.G. 2.7; R. I. 1.49/1.66. Source, widespread.

calcite satin spar. See **satin spar.**

calcium-aluminum garnet. Same as **grossularite.**

calcium-chromium garnet. Same as **uvarovite.**

calcium glass. See **crown glass.**

calcium-iron garnet. Same as **andradite.**

calcomalachite. Mixture of malachite and calcite, and also, often, gypsum. An ornamental stone often sold as malachite.

calibre cut (kal′i-bray or kal′i-ber). (1) Stones of square, rectangular keystone or other shape, cut for setting in ring shanks, band rings, bracelets, etc. Usually very small and set **pave′** in lines or masses to improve the design or enhance the beauty of a jewel. See page 257.

"California cat's-eye." Compact fibrous serpentine, exhibiting an indistinct light line or **chatoyant effect,** and occasionally a fine **cat's-eye.**

"California hyacinth." Hessonite.

"California iris." Kunzite (spodumene).

"California jade". Californite.

"California lapis." Misnomer for blue **dumortierite quartz.**

"California moonstone." White or whitish **chalcedony.** A misnomer.

California morganite. Morganite from California; some of fine color but more often of salmon pink color.

"California onyx." A European name for "Mexican onyx."

California pearl. Term often used overseas, for **La Paz pearl,** from Baja (Lower) California, Mexico.

"California ruby". Garnet.

"California tiger eye." Same as **"California cat's-eye."**

California topaz. Topaz from Mesa Grande and Ramona districts of Southern California. Usually pale blue to almost colorless, but occasionally as fine in color as any blue topaz.

"California turquoise." Variscite.

California turquoise. Term sometimes used overseas to mean **any** turquoise from California or

other southwestern states of U.S.A.

californite. (1) A green compact variety of **vesuvianite.** H. 5½; S.G. 3.40. Mean R.I. 1.72 (Anderson). (2) Schlossmacher applies name also to white **grossularite** garnet from Fresno Co., Calif.

caliper. A device for measuring the dimensions of an object, usually with movable jaws which hold or contact an object. When equipped with means for accurate measurement of small units, is called a **micrometer caliper** or simply a **micrometer.**

callaica, callaina, callais, callainite. Ancient names still sometimes used for turquoise.

callainite. Translucent, yellowish to bluish green aluminum phosphate **mineral** found in a Celtic grave in Brittany. Indicated by Dana and Bauer to be closely related to variscite.

callaite. See **calaite.**

calliper. See **caliper.**

calmazul. Same as **chrysocarmen.**

calorescence. The phenomenon of glowing when a substance is stimulated by the heat rays which lie beyond the red end of the visible spectrum. Same as **thermoluminescence.**

camafeo (Span.). Cameo.

Cambay stone. Carnelian.

cameos. Cameos are generally, but not always, fashioned from substances composed of two or more differently colored layers. *Genuine cameos* contain a design which has been produced by cutting away portions of the upper layer or layers (or of the upper surface, in singly colored substances). If cut from genuine gem materials, it is advisable to describe such cameos as *stone cameos;* if from shell, as *shell cameos;* if from coral, as *coral cameos,* etc. If cut from synthetic stones, they should be described as *synthetic stone cameos.* Cameos are also molded or pressed, and when so constructed should be described as *molded* or *pressed.* Cameos which are made of two or more separate pieces joined together should be described as *assembled cameos* when one or more parts are genuine, and *imitation cameos* when made of glass or composition. (Definition jointly prepared and adopted by Nat'l. Better Business Bureau, and the American Gem Society). See **shell cameo; stone cameo.**

cameo ware. Same as **jasper ware.**

Campeche pearl. Pearl from Gulf of Campeche. In the trade more often called **Venezuela pearl.**

camphor jade. A variety of white translucent jadeite resembling crystallized camphor in appearance.

Canadian jet. Jet which came from Pictou, Pictou Co., Nova Scotia.

Softer than **Whitby jet.** (Kunz)

Canadian Jewelers Ass'n. The national business association of Canadian jewelers, which includes retailers, wholesalers and manufacturers. Incorporated 1918. Address, 73 Richmond St., West, Toronto.

canary beryl. Greenish - yellow beryl.

canary stone. Yellow carnelian.

cancrinite. A transparent to translucent mineral which has been cut as gems for collectors. Bright orange, yellow to pale yellow, pale violet or deep blue (Schlossmacher). Also green, reddish, white or gray varieties (Dana). Hex. A complex silicate; H. 5-6; S.G. 2.4-2.5; R.I. 1.49/1.51-1.50/1.52; Bi. 0.023. From Siberia, Maine, Ontario, and other sources.

cand or **cann.** (Cornish). Same as **blue-john.**

candite. Blue spinel.

"Candy spinel." Same as **"Kandy spinel."**

cannel coal. Compact, often dull black coal. Sometimes substituted for jet.

Canton jade. Any jadeite or nephrite from Canton, one of China's three largest jade markets.

canutillos. Term used in Colombia for fine emeralds suitable for gems.

"Cape chrysolite". Green prehnite from South Africa.

"Cape emerald." Incorrect name for prehnite.

carat (kar'at). A unit of weight for diamonds, other gems and pearls. The carat formerly varied somewhat in different countries, but the metric carat of 0.200 grams or 200 milligrams was adopted in the United States in 1913, and is now standard in the principal countries of the world. Sometimes spelled *karat* but in U. S. A. *karat* refers only to the fineness of **solid gold.** See also **grain.**

carato (Ital.). Carat.

carbon. An element. A jewelry trade term often applied to any black-appearing inclusion or imperfection in diamond or other gems; also a term used in industry to refer to **carbonado.**

carbonado. A crystal aggregate of very minute crystals of diamond; used for industrial purposes.

carbon dioxide test. Same as **dry ice test.**

carbonetto. Italian trade term for very dark red coral. Same as **ariscuro.**

carborundum. A trade-marked name for an artificial abrasive, crystallized carbide of silicon (SiC.) discovered in 1891. Between 9 and 10 in hardness on **Mohs scale,** it is powdered and used in grinding gemstones other than diamonds.

carbuncle. Name used in ancient and middle ages for any cabochon-cut red stone, especially red garnet, and gemologically confined to the latter. See **Karfunkel.**

Carlotta pearl. An 86-gr. oval shaped pearl which seems to have been once pawned by Empress Carlotta of Mexico.

carnelian (kar-neel-yan'). Red, orange-red, brownish red, or brownish orange, translucent to semitranslucent variety of **chalcedony.** Sometimes yellow or brownish yellow. Grades into more brownish intensities of these colors which are called **sard.** See **carnelian onyx.**

carnelian agate. Banded agate similar to **carnelian onyx** in coloring except bands are not straight and parallel.

carnelian onyx. Onyx with alternating bands of white **chalcedony** and **carnelian.** See page 257.

carneol (obsolete). Carnelian.

carré (French). Square cut.

casein. An amorphous plastic made from the albumen of milk by treating milk with acid. Sometimes colored to imitate amber, agate, malachite, tortoise shell, ivory and other decorative materials. S.G. 1.3-1.4; R.I. 1.55-1.56.

Cashmere sapphire; also **Kashmir** or **Kashmere.** (1) Any sapphire from Kashmir, a native state of northwest India. (2) A trade grade of blue sapphire applied to stones of the velvety cornflower color (violetish blue) of the most desirable sapphires from Kashmir.

cassiterite. A transparent to opaque mineral of which some unusually transparent stones are cut and in demand by collectors and museums, especially its red or yellow varieties. It is the ore of tin and usually is black or brown. Tetr. SnO_2. H. 6-7; S.G. 6.8-7.1; R.I. 2.00/2.09; Bi. 0.097; Disp. 0.071. From England, Saxony, Czechoslovakia and other sources.

catalin. An amorphous plastic similar to **bakelite.**

"Catalina sardonyx". (kat'a-lee'-na). Catalinite.

catalinite. Beach pebbles from Santa Catalina Island, California.

cateye. A word used, apparently in error, for **cat's-eye.**

cathode. The negative terminal of an electrical source.

cathode rays (kath'ode). Rays projected from the cathode of a vacuum tube in which an electric discharge takes place. By impinging on solids the cathode rays generate Röntgen rays or **X rays.**

cat sapphire. Same as **lynx sapphire.**

cat's-eye. (1) Term most properly applied only to cymophane, the **chrysoberyl cat's-eye.** (2) Term applied to any gemstone which, when cut cabochon, ex-

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hibits under a single, strong **point source,** a sharp, well-defined light band, line or streak of white light across the dome of stone, which moves as the stone is turned about. This phenomenon which resembles in shape the slit pupil of the eye of a cat is caused by reflection of light from included fibers (crystals) or long parallel cavities or tubes. Few mineral species produce well-defined cat's-eyes, and as the unmodified term is used only for **cymophane,** the varieties of those species which do are known as alexandrite cat's-eye, tourmaline cat's-eye, scapolite cat's-eye, or cordierite cat's-eye, several varieties of quartz cat's-eye, etc. Many other gemstones exhibit a broader or less well-defined light line, but these are more properly said to have a cat's-eye effect or a **chatoyant effect.** See also **girasol. "New Guinea cat's-eye."** (3) A name incorrectly used for so-called **"shell cat's-eye."**

"cat's-eye enstatite." Enstatite with a **chatoyant effect.**

cat's-eye opal. Same as **opal cat's-eye.**

"cat's-eye resin." See **dammar.**

cat's-eye ruby. See **ruby cat's-eye.**

cat's-eye sapphire. See **sapphire cat's-eye.**

"cat's quartz." Same as **quartz cat's-eye.**

Cattelle, Wallis Richard (1848-1912). Author of *The Precious Stones, 1903; The Pearl, 1907; The Diamond, 1911.*

catty. A Siamese measure of weight by which rough zircons are sold; 1-1/3 pounds averdupois.

cave pearl. A concretion with a pearly luster formed in limestone caves by the agency of water.

Ce. Abbr. for the element cerium.

cedarite. A fossil resin resembling amber. From bed of Saskatchewan River, Canada.

Celebes pearl. Pearl from the Celebes Archipelago. In quality, better than **Australian pearl** but inferior to **Bombay pearl** or **Madras pearl.**

celestial opal. A name for **precious opal.**

celestial stone. Turquoise.

cellon. A non-inflammable celluloid. An amber imitation. S.G. 1.26; R.I. 1.48. (Anderson)

cellular. Full of small openings; sponge-like.

celluloid. A plastic produced from a cellulose base of two varieties, sometimes used for imitations of amber, ivory, tortoise shell, etc. The newer noninflammable cellulose acetate variety, or safety celluloid, has S.G.1.3-1.8; R.I. 1.49-1.50. The old inflammable cellulose nitrate variety has approximately same proper-

ties. (Anderson)

centigrade thermometer. A thermometer, on the scale of which the distance between the two standard points, the freezing point and boiling point of water, is divided into one hundred equal parts or degrees.

cer-agate. Yellow chalcedony. See **carnelian.**

cerannite (French). Nephrite.

cerkonier. Jargoon from Ceylon.

Cerkonier (German). Colorless **zircon.**

Certified Gemologist. A title annually awarded to members of the American Gem Society who have successfully satisfied educational and membership standards required by the Society.

cerulene. (1) Trade name for a variety of **calcite** colored green and blue by **malachite** and **azurite.** From near Bimbowrie, So. Australia and other sources. An ornamental stone. (2) Less correctly, blue **satin spar.**

ceylanite. Same as **ceylonite.**

Ceylon alexandrite. The unusually transparent **alexandrite** which occurs in Ceylon in large sizes, often of 20 or more carats in weight, after cutting.

Ceylon or **Ceylonese cat's-eye.** Chrysoberyl cat's-eye.

Ceylon chrysoberyl. Chrysoberyl from Ceylon, the principal source of that gemstone. Most of it yields **cat's-eye** or stones with **chatoyant effect,** and if dark green exhibits more or less the changeable color quality of **alexandrite.**

"Ceylon or **Ceylonese chrysolite."** Yellowish green to greenish yellow **tourmaline.**

Ceylon cut. Schlossmacher describes as a **mixed cut oval,** illustrating one with 40 facets on crown and 64 on pavilion. See **mixed cut.** See page 258.

"Ceylon diamond." Colorless zircon.

Ceylon garnet. Almandite from Ceylon.

"Ceylon hyacinth." Hessonite garnet.

ceylonite. Dark, almost black, especially greenish black spinel. Sometimes cut for mourning jewelry.

Ceylon moonstone. Moonstone from Ceylon, which is principal source of the orthoclase variety. Usually with whitish **adularescence;** less often bluish. See **blue moonstone.** See page 258.

"Ceylon opal." Misnomer for moonstone (feldspar).

Ceylon pearl. Fine pearl; a variety from *Meleagrina vulgaris,* from the Gulf of Manaar, Ceylon, which averaged the finest in quality of any source until the yield of the mollusc beds

ceased several years ago. Cessations of yield have occurred previously. Pearls were largely marketed as **Madras pearls.** As *an American trade grade*, usually a white pearl with blue, lavender or green **orient.** See **Meleagrina pearl.**

"Ceylon peridot." Honey-yellow or yellowish green tourmaline.

Ceylon ruby. Mineralogically, a ruby from Ceylon. However, being lighter red and more transparent than fine ruby, is often classed as pink sapphire. Also an incorrect name for **almandite.**

Ceylon, Ceylonese or **Singhalese zircon.** (1) Any zircon from Ceylon. (2) More especially, a fine red, cloudy zircon.

C.G. Abbr. for **Certified Gemologist,** a title of the **American Gem Society.**

chalcedony (kal-sed'-o-ny). (1) The cryptocrystalline subspecies of quartz as distinguished from **crystalline quartz.** Massive semitransparent to translucent, white, gray, black and light tones or low intensities of all hues, many of which are known by variety names. Such names are in general use in the trade of U. S. A. except for the blue variety. (2) By popular usage in some portions of the trade of U.S.A., a word used to describe only the light blue variety of the subspecies just described.

"chalcedony moonstone." The white, or almost colorless chalcedony. Gathered from beaches in various parts of world, especially in California, it has been widely sold as **moonstone.** It lacks adularescence of genuine moonstone. Same as **"California moonstone."** See **quartz.**

chalcedony onyx or **chalcedonyx.** Chalcedony with alternating stripes of grey and white.

"chalcedony patches." White blemishes in rubies.

chalchihuitl, chalchihuite, chalchiguite, chalchuite, chalchuites, or **chalchuhuites.** A Mexican name for jade, turquoise, smithsonite, or any greenish stone of similar appearance; more specifically green turquoise, although Kunz distinguishes jade as the precious stones of Chalchihuitl. The words are sometimes applied to any stone which can be carved, regardless of species or color.

chalcocite or **chalcosite** (copper glance). Lead-grey metallic mineral sometimes used in cheap jewelry. H. 2½-3; S.G. 5.5-5.8.

chalk jade. A descriptive term applied by Chinese to a specific color quality of jade.

chameleonite. Name proposed for a rare variety of tourmaline, olive green in daylight, changing to brownish red in most artificial light.

chameleon stone. Hydrophane.

changeant (Fr.). Labradorite.

change of color. The over-all

change of color which occurs in a stone when the stone is moved about as in **labradorite,** in contrast to **play of color.**

chank pearl. A pearl similar in appearance to **conch pearl**, pink, devoid of nacreous luster and therefore not a **true pearl.** From the *Turginella scolymus* gastropod.

channel setting. The style of setting stones, with edges almost touching, in a channel that is usually a straight line. See **paved** or **pave'.**

Chantabun ruby. Marketed through city of Chantabun (Siam) and mined in the district of the same name, or Krat, southwest of that district. See **Siam ruby.**

Charlemagne's Talisman. See **Talisman of Charlemagne.**

Charles II Pearl. A pearl found in 1691, presumably in the Americas, and presented to Charles II. Almost equal in weight to **La Peregrina;** the two were worn in earrings by the Queens of Spain..

Charles II Sapphire. Same as **Stuart Sapphire.**

chaton (Fr.). (1) Bezel of a ring. (2) Same as **chaton foil.**

chaton foil. A term applied to an **imitation foil back** or an **imitation lacquer back.** See page 258.

chatoyancy (sha-toy'an-see, or Fr., sha'twa-yan-sy). The phenomenon of a movable white light band in either a **cat's-eye** or a stone with a **chatoyant effect.**

chatoyant. Possessing chatoyancy.

chatoyant effect (sha-toi'ant). Term in gemology used to describe that **chatoyancy** in a stone which produces an irregularly defined light band such as in so-called **"bronzite cat's-eye," "enstatite cat's-eye," satin spar,** and others, but not the sharp well-defined light line necessary for a true **cat's-eye.**

chatoyant stone. One exhibiting either a **cat's-eye** or a **chatoyant effect.**

cheky (Turkish). Unit of weight, 320 grams.

Chelsea filter. See **color filter.**

chemawinite. A pale yellow to dark brown fossil resin related to succinite. S. G. 1.055. From near mouth of N. Saskatchewan River, Canada.

chemical formula. Indicates the composition of the substance. For example, Al_2O_3 indicates that each molecule of the substance is composed of two atoms of aluminum and three atoms of oxygen; other formulas have similar meanings.

cherry opal. A reddish translucent opal from Mexico.

cherry pearl. (1) Pearl of pronounced pink of the hue of any variety of cherry; (2) pearl approximately the size of a cherry (very rare).

chessylite (ches'i-lite). Same as **azurite.**

chestnut jade. A descriptive term applied by Chinese to a specific color quality of jade.

chevee (shev-vae). A flat gem with a smooth concave depression. If a raised figure is in the depression it is a **cuvette,** although the two terms are often used interchangeably in the North American trade.

chevvü. (1) A Ceylonese weight. Same as **chow.** (2) Ceylonese term used for pearls of superior quality including **ani, anitári, masaku,** and **kaiyéral.** See **vadivu; kuruval.**

chiastolite (kei-as toe-lite). A variety of andalusite containing black carbonaceous inclusions. These usually have a definite arrangement resembling a cross. A **curio stone.** H. 3-7½.

chicken bone jade. Chinese descriptive term for the disintegrated texture and the yellowish discoloration of white jade which has been burned or buried. See **tomb jade.**

chicot pearl. Same as **blister pearl.**

Chi Ku Pai jade. Same as **chicken bone jade.**

Chilean lapis. Pale to light blue lapis lazuli containing veins of white matrix; often tinged or spotted green and prominently veined with white or gray.

chimaltizatl. Aztec word for selenite (S. H. Ball).

China or **Chinese pearl.** (1) A pearl with two drilled holes for fastening to a mounting by a peg and a screw. (2) Pearl from China; usually fresh-water, rarely **oriental pearl.**

China opal. Common opal resembling white porcelain.

Chinese amber. Sometimes correctly applied to amber mined in Burma and marketed in China, but more often applied incorrectly to pressed **Baltic amber** and often to **bakelite** or other amber colored plastics.

"Chinese cat's-eye." Same as **"shell cat's-eye."**

Chinese jade. Term correctly applied to jadeite.

"Chinese tourmaline." Tourmaline from California and other non-Chinese sources fashioned as gems or art objects in China.

"Chinese turquoise." A name rarely used for a mixture of soapstone, calcite and quartz, dyed blue.

Ch'iung Yü. Chinese name for a valuable type of red jade.

Chivor emeralds. Emeralds from the ancient Chivor mine. Used as a trade term, Chivor refers to a more bluish, less velvety and usually less intensely colored emerald than Muzo emeralds. See **Somondoco emeralds.**

chlorastrolite (klore-as'trolite). A translucent mottled green **prehnite,** or related mineral, with a **chatoyant effect.** From Lake Superior region, especially on Isle Royale. Principally a **curio stone.**

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chloromelanite (kloe'roe - mel'a-nite). A gem mineral usually classed as a dark-green, nearly black variety of **jadeite**; rarely is it classed as a separate species.

chloropal. A name for two different stones of no gemological interest. (1) A green opal-like hydrous silicate of iron (Dana). (2) A greenish common opal from Silesia.

chlorophane. A variety of fluorite which yields a green fluorescence when heated.

chlorospinel. A green spinel.

chlor-utahlite. Same as **utahlite.**

chondrodite. Dark red garnet-like stone found near Putnam, New York. Mono. H. 6-6½; S.G. 3.1-3.2; R.I. 1.59/1.64. Also yellow (and orange-red). Eppler mentions as similar to peridot.

chorlo (Span.). Tourmaline.

chow. Indian pearl unit. See **tank.**

chromatic (kroe-mat'ik). Of or pertaining to color or colors.

chromatic aberration. See **aberration.**

chromatic color. A hue, as distinguished from white, black or any tone of gray. The opposite of **achromatic color.**

chrome. Same as **chromium.**

chrome diopside. A variety of diopside. Dark green specimens are seldom either transparent or cut as gems.

chrome-idocrase. An emerald-green variety of idocrase, containing chromium. From Black Lake, Quebec; Ekaterinburg, Urals. (English)

chrome mica. Fuchsite.

chromepidote or **tawmawite.** A chrome epidote from Mt. Tawmaw, source of Burma jadeite.

chrome spinel. Greenish to dark yellow brown, transclucent to opaque spinel. S.G. 4.1.

chrome tourmaline. A non-gem, dark blue variety of tourmaline which exhibits a green fluorescence when heated.

chrome-vesuvian. Same as chrome idocrase.

chromite. An opaque iron-black to brownish black mineral, very occasionally cut as a gemstone for collectors. Resembles jet in color but has higher metallic luster. Iso. $FeCr_2O_4$. H. 5.5; S.G. 4.3-4.6; (4.1-4.9 Dana). From Turkey, So. Rhodesia, Pa., Md., and other states and nations.

chromium. A metallic element. Gemologically important as coloring agent of emeralds and rubies.

chromium garnet. Uvarovite.

chrysanthemum stone. Same as **kikukwaseki.**

chrysoberyl (kris'oe'bare'l or bar'-il). One of the hardest and most important gem minerals, of which **alexandrite** and **cymophane** are varieties. Also greenish yellow to bluish green and

yellowish brown varieties. Ortho. $BeAl_2O_4$. H. 8.5. S.G. 3.5-3.8; R.I. 1.74/1.75-1.75/1.76. Bi. 0.009; Disp. 0.015. From Ceylon, Urals, Brazil, and China.

chrysoberyl cat's-eye. See **cymophane.**

"chrysoberyllus." A confusing name, rarely applied to greenish yellow beryl.

chrysocarmen. Reported to be a red or brown copper-bearing ornamental stone from Mexico containing light and dark blue as well as numerous green spots of, perhaps, azurite and malachite.

chrysocolla (kris″oe-koll′a). A soft, blue mineral which, as inclusions, colors quartz. Amorphous or cryptocrystalline; a hydrous copper silicate. H. 2-4; S.G. 2.0-2.2; R.I. 1.46/1.57 (Dana), or varies from 1.575 to 1.635 (Kraus and Hunt). See **chrysocolla quartz.**

chrysocolla quartz. A translucent chalcedony colored by **chrysocolla.** Same as **azurlite.**

chrysodor. A trade name for a green and white stone with markings like marble.

chrysojasper. Jasper colored with chrysocolla.

chrysolite (kris′oe-lite). (1) A mineral species more generally known as olivine by geologists and peridot by gemologists. (2) In **gemology** the almost colorless to yellow to yellowish green variety of that mineral species. See **olivine; peridot.** (3) As a qualifying adjective, as in the term **chrysolite chrysoberyl. chrysolite beryl,** etc. refers to **hues** between pale or light greenish yellow to pale or light yellowish green.

chrysolite aquamarine. Same as **chrysolite beryl.**

chrysolite beryl. Light yellowish green to light yellow-green beryl.

"chrysolite cat's-eye." Chrysoberyl cat's-eye.

chrysolite chrysoberyl. Light greenish yellow to light yellow-green chrysoberyl.

chrysolite sapphire. Light yellow-green sapphire.

chrysolite spinel. Light greenish yellow to light yellowish green **spinel.**

chrysolite topaz. Pale green to pale yellowish green topaz. Same as **"Saxon** or **Saxony topaz."**

chrysopal. Translucent apple-green common opal colored by nickel. From Silesia. See **prase opal.**

"chrysophrase." A misleading word proposed for green-dyed chalcedony, to replace the trade misnomer **"green onyx."** Obviously used by those who misspelled **chrysoprase** or proposed by those who intended to imply that green-dyed chalcedony was chrysoprase.

chrysoprase (kris′oe-prase). (1) A pale yellow-green variety of

chalcedony. (2) A misleading term for so-called **green onyx** which is a much darker green.

"chrysoprase colored onyx." Term which although formerly recommended by National Better Business Bureaus for green-dyed chalcedony, is nevertheless incorrect as it is not onyx. Same as **"green onyx."**

chrysoprase matrix. Chrysoprase with noticeable white or brown inclusions.

chrysoprasus. Ancient spelling of chrysoprase.

chrysoquartz. Green aventurine quartz.

chrysotile. A variety of fibrous serpentine popularly known as asbestos.

chunam. (1) Ceylonese term for a shell-lime powder to which **tul** is sometimes ground for use as an ingredient of a food. (2) Also used to mean various other calcareous substances. (3) A unit of weight for gold.

Ch'uti. A Chinese term meaning "out of the earth." Applied to jade of various colors stained with oxides of all colors resulting from long reburial in the earth.

ciamita (Span.). Blue tourmaline.

cianita (Span.). Cyanite.

cimofano (Span. and Port.). Chrysoberyl cat's-eye.

cinnabar (sin'a-bar). A bright red to brownish red and sometimes lead grey, non-gem mineral which, however, often occurs as red impurities in different quartz varieties of gemstones or in combination with such varieties. Also used in China as coloring pigment for a red lacquer. The principal ore of mercury. Hex. HgS; H. 2-2.5; S.G. 8.0-8.2. Sources widely distributed.

cinnabar matrix. A term applicable to various varieties of minerals containing numerous inclusions of **cinnabar** but especially to a Mexican variety of jasper.

cinnamite. Same as cinnamon stone.

cinnamon stone. The reddish brown variety of **hessonite.**

circle agate. Agate with circular markings.

circone (Italian). Zircon.

Ciro pearl. An imitation pearl.

citrine (sit'rin or preferably sit-reen). The transparent yellowish to red-orange or red-brown variety of **quartz.** Found naturally in these colors. Other brownish varieties known as **smoky quartz.** See **topaz quartz.**

"City of Gems." Ratnapura, Ceylon.

clam. Word often incorrectly applied to fresh-water mussels in which pearls are found, especially those in Mississippi basin.

Clam is properly a different species.

clammer. One who fishes for the fresh-water mussel for its shell or pearl or both.

clam pearl. Not **fine pearl.** Found in oysters and clams. Light drab, purplish red or blue, almost black. Sometimes incorrectly sold as **black pearl.** See **clam.**

clarified amber. More or less cloudy amber which has been clarified by heating in rapeseed oil.

clastic. Composed of fragments.

clean. A trade term usually meaning free from noticeable flaws.

clear amber. German trade term for transparent amber. See **ice-colored clear amber, braunschweiger clear amber** and **common clear amber.**

cleavage. (1) The tendency of a crystalline mineral to break in certain definite directions leaving more or less smooth surface. (2) The act or process of producing such a break. See **cleaving.** (3) One of the portions of a mineral resulting from such a break, which if of comparatively large size, is known as a *cleavage mass.* (4) A term sometimes used for diamond crystals which require cleaving before being fashioned.

cleavage crack. A more or less clean and regular separation, exhibiting smooth reflective surfaces between atomic planes of a mineral, and along a **cleavage** direction.

cleavage, false. Same as **parting.**

cleaving. A prócess occasionally used in fashioning of diamonds and but rarely in other stones; the splitting of a stone into two or more portions to produce pieces which are of sizes or shape which will produce fashioned stones more economically or of better quality.

Cleopatra emerald mines. Emerald mines at Gebel Sikait and Gebel Zabara, in Northern Etbai, near the Red Sea. See **Egyptian emerald.**

Cleopatra Pearls. Two pearls worn as earrings by Cleopatra. One of these she was said (by Pliny) to have dissolved in vinegar (an impracticability unless first powdered). The other was said to have been bisected after her death and placed in the ears of the statue of Venus in the Pantheon at Rome.

Clerici's solution. Thallium malonate and formate in water. (Or thallium carbonate, malonic acid and formic acid in water). A **heavy liquid.** S. G. 4.15. Miscible in water to produce lower S.G.

cloud. A term used to describe a group of tiny inclusions, or of very small internal fractures, so arranged as to produce a semitransparent to semitranslucent

film resembling a cloud.

cloud agate. A name applied especially to light gray transparent to semitransparent chalcedony with more or less rounded spots of darker gray which resemble dark clouds.

cloudy agate. A term loosely used for white to gray chalcedony containing any cloudy effect.

cloudy amber. A trade classification which includes translucent to opaque amber. Its comparative opacity is due to inclusions of small bubbles.

cm. Abbr. for centimeter.

Co. Abbreviation for the element cobalt.

coal jade. A descriptive term applied by Chinese to a specific color quality of jade.

coated stone. (1) A stone entirely covered by some transparent material to improve its color. (2) Same as **lacquer back.** See also **altered stone.**

cobalt. An element. Gemologically important as the coloring agent of synthetic blue spinel and of many blue glass imitations.

cobalt glass. Blue paste (glass) colored with cobalt.

cobaltite. A mineral. Usually resembles pyrite except pinkish. Cut but rarely for gem use. Iso. CoAsS; H. 5½; S.G. 6.0-6.3.

Coberpedy opal. Precious opal from Stuart's Ridge, South Australia. Similar to **White Cliffs opal,** but with body more nearly colorless. See **Coober Pedy.**

coconut or cocoanut pearl. A pearl which in appearance resembles the meat of a coconut; from the giant oyster or clam of Singapore (Kunz). Another trade authority mentions it as being from a white **conch.**

cohesion. A force of attraction which holds together the atoms of a substance and which tends to resist any separation of them. See **cleavage; fracture; toughness.**

collections, gem. See **museum gem collections.**

collectors (of gems). Persons who make collections of gems as a hobby or because of scientific interest.

collet. (1) Same as **culet;** (2) a flange on which a gemstone is set.

collimator. A lens system which parallelizes incident light rays.

colloidal. Jelly-like.

Colombian emerald. Emerald from any mine in Colombia. As a trade term, any emerald of fine color quality, from any locality.

Colombian pearl. According to Schlossmacher, pearl of the *Avicula squamulosa,* about one-third the quality of **Persian Gulf pearl.**

colophonite. A cloudy yellow brown common variety of andradite

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garnet, rarely, if ever, cut as gem. Also a nongem variety of **vesuvianite.**

color. (1) In the broadest sense, a sensation produced on the optic nerve by **light,** which varies as to (a) the wave length or combinations of wave lengths of that light, a variation described as a variation of **hue,** and as to (b) the **tone** and **intensity** of that hue. As a result of these possible variations of this sensation some authorities estimate that about 150 hues and over one million different color sensations or *colors* can be distinguished, each color being a variation in tone and intensity of one of those hues. In this broader sense white light, produced by the combination of wave lengths of all hues in the **visible spectrum,** is also considered to be a color, as well as grey, which is the lower intensity of white, black which is a total absence of color, and the purple hues, which are a blending of the red and blue or violet hues. All sensation of vision is one of light, an object being visible only because of a color variation from its surroundings. An object which reflects all wave lengths of the light which falls on it has the same color as that light e.g., blue light falling on a white object changes its apparent color to blue. Other objects absorb certain wave lengths and reflect others which produce the sensation known as the color of that object. In opaque gems this absorption occurs near the surface, in transparent gems it occurs as the rays pass through the stone. See also **absorption, primary colors.** (2) In a narrower sense, the word color is limited to hue, and the variation of such hue as to its tone and intensity, a limitation which excludes white, grey and black. Thus the term *colored birds* would exclude blackbirds. See **chromatic color, colored stone.**

Colorado aquamarine. Aquamarine from Mt. Antero, Colorado. Usually pale blue to pale blue-green, but occasionally of the most valued color, pale light blue.

"Colorado diamond." Transparent smoky quartz.

Colorado jet. Jet from Colorado; of good quality.

Colorado lapis lazuli. Dark blue lapis lazuli from Sawatch Range, Colorado.

"Colorado ruby." Pyrope (garnet).

Colorado topaz. (1) Topaz from Colorado which is colorless or pale blue. (2) A misnomer for yellowish **citrine** or **topaz quartz.**

Colorado tourmaline. Pink, lilac, green and colorless tourmaline which, for a while after 1906, was found near Royal Gorge, Colorado.

Colorado turquoise. Turquoise of good color from four different localities in central Colorado. Nevada is the only state which produces more **American turquoise.**

colored pearl. A pearl which exhibits a pronounced body color, which may be red, purple, blue and gray to dead black, as distinguished from a **fancy pearl.** Usually a **fresh-water pearl.**

colored stone. A trade term in common use in North America to mean a gemstone of any species other than diamond. This usage illogically classifies all varieties of such species as colored stones, including colorless varieties, but it does not include colored diamonds. However, it has proved a practicable and satisfactory classification.

color filter. Glass of a special color which, when white light passes through it, absorbs or filters out all its spectrum colors except certain ones. When emeralds, demantoid garnets and some other genuine or synthetic stones are seen through filter which absorbs all but red and green, those stones appear red. Such filters are known as beryloscopes, **emerald glasses, Chelsea filter,** etc.

color grade. The grade or classification into which a gem is placed by examination of its color in comparison to the color of other gems of the same variety.

colorless. Devoid of any color, as is pure water, a pane of ordinary window glass, or a fine diamond; therefore distinctly different from white, as is milk, or white jade. As only transparent objects can be colorless, and no opaque object can be colorless, such terms as *white sapphire* and *white topaz* are misnomers. Rock crystal is a colorless variety of quartz; milky quartz is a white variety.

color nomenclature system. A system of correlated names of colors by the use of which it is possible to more nearly describe colors than by such names as *robin's-egg blue, leaf green,* etc. In North American gemology a mathematical system has been developed and established based on 24 hues, systematically equidistant from each other, on the circumference of a color circle. These hues are systematically named blue, **greenish blue, blue-green, bluish green,** etc. The variations of these hues are further described as **hues** and **intensity.** To perfect this system the terms **orangy** and **violetish** were coined.

color play. A term usually used to mean **dispersion** and not **play of color.**

columnar. In geology, having slender prisms in close parallel grouping.

common clear amber. A German trade grade or color quality of transparent amber; light yellow. See **clear amber.**

common opal. Opal without **play of color.** Most varieties are of no gemological interest or importance, others because of their color or markings are set in jewelry. See **precious opal.**

compact. Consisting of a firm, closely united aggregate.

complex crystals. Those having many crystal forms and faces.

composite stone. An English term. Same as **assembled stone.**

comptonite. Opaque variety of thomsonite from Lake Superior region; often cut cabochon as a curio stone. Also from Italy.

conamara. A variety of grey-green to dark green **precious serpentine** from England. (Eppler)

concentric. Consisting of spherical layers about a common center.

conch (konk). (1) A salt-water spiral univalve or snail; a **gastropod.** The species *Strombus gigas* and the species *Cassis madagascarensis* produce conch pearl and the former provides much of both the pink and brown shell from which cameos are carved. (2) A term sometimes used as a synonym of shell (of any mollusc).

conchiolin or **conchyolin** (kon-kie′-ol-lin). A constitutent of the shell of the salt-water **Margaritifera** mollusc and of most pearls produced by it, $C_{30}H_{48}N_9O_{11}$.

conchoidal fracture (kon-koi′dal). *Shell-like* or *conchoidal fracture* are terms used to describe breakage which produces curved ridges like the outside markings on a shell, or the ripple marks in water.

conchologist. One who is master of or proficient in, conchology, that branch of zoology which treats of molluscs especially with reference to their shells.

conch pearl. Pearl, which may be one of several colors, from the **conch.** Only the pink, which resembles pink coral, is used in jewelry. Found principally in waters of Florida and Bahamas. Devoid of nacreous luster; not **a true pearl.**

concretions. Mechanical aggregation, or chemical union of particles of mineral forming balls or nodules in a different material.

confused. Irregular, indistinct aggregate.

conglomerate (kon-glom′er-ate). Rock composed of gravel embedded in sand, which acts as a cement.

"Congo emerald." Dioptase.

"Connemara marble." Dark green to grayish gem quality serpentine.

conical. Cone shaped. In mineralogy, usually an elongated cone as are most icicles.

coniferous. Bearing cones as do

the trees of the pine family.

conoscope. An instrument making use of convergent polarized light for gem examination; for the purpose of producing interference figures.

contact goniometer. See **goniometer.**

contact twin. See **twin.**

convex cutting. Cabochon cutting.

Coober Pedy. Another spelling of **Coberpedy,** the South Australian opal field.

cooling striae. Whorls of parallel lines seen in most glass imitations of gems.

Cooper, Charles W., F.G.S. Author of *The Precious Stones of the Bible,* London, 1924.

copal (koe'pal). A natural colorless, lemon yellow or yellowish brown resin from Africa, East Indies and South America. Similar in appearance to amber, soluble in alcohol, ether, turpentine or linseed oil and used principally for varnishes and lacquer, the hardest varieties being used in imitating amber (Kraus and Holden). See **kauri copal.**

copaline or **copalite.** A resinous substance, first found in blue clay at Highgate, near London, and apparently a vegetable resin, partly changed by remaining in the earth. Like resin **copal** in hardness, color, transparency and difficult solubility in alcohol. Color clear, pale yellow to dirty gray and dirty brown. Emits a resinous aromatic odor when broken (Dana).

"copper emerald" Dioptase.

"copper lapis." Azurite.

"copper malachite." Chrysocolla.

coque de perle. An oval section of the rounded whorl of the shell of the Indian nautilus; because of its thinness it has to be backed with cement, and in appearance resembles blister pearl. (Smith)

corail (French). Coral.

coral. A stone-like mass of $CaCO_3$ in the form of calcium secreted by the coral polyp, a small sea animal. Precious coral is red, or pink. Other colors are known including white, cream, brown, blue and **black coral.** H. 3.5; S.G. 2.6-2.7; R.I. 1.60. Source of precious coral: Persian Gulf, Japan, Australia and the Mediterranean.

coral agate. Any agate resembling fossilized coral. More specifically agatized or silicified coral, in which white coral skeletons appear against flesh-red background. A variety of **beekite.** (Bauer-Spencer)

corali (Italian). Coral.

coral jade. A descriptive term applied by Chinese to a specific color quality of jade.

coralline. Aniline-dyed red chalcedony.

coraux (Fr.). Plural of coral.

cordierite. Same as **iolite.**

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"Corean jade." "Korean jade."

Corean jade. See **Korean jade.**

corindite. Trade name for an artificial abrasive, consisting mainly of corundum.

cornelian. An alternate spelling of **carnelian** preferred in England. (Smith)

cornalina. (Span. andPort.). **Carnelian.**

cornaline. French word for carnelian, sometimes used in other nations as deceptive term for analine-dyed red chalcedony.

cornerina. (Span.) Carnelian.

"Cornish diamond". Rock crystal.

corn tongs. Especially in England, tweezers with somewhat blunt rounded ends, ribbed within, with fairly weak spring. Particularly suitable for handling stones and pearls. (Anderson). See page 258.

corpse pearls. Pearls buried with Chinese dead in Sumatra, one in the mouth and one in each eye.

corrected loupe. See **loupe, corrected.**

Corsican green. A mineral similar to bastite; used as a substitute for it in ornamental objects.

corundolite. A name which has been suggested for (1) colorless synthetic corundum, (2) rock composed of corundum or emery.

corundum (kor-run″dum). A mineral of which ruby, sapphire and emery are varieties. Hex. Al_2O_3; S.G. 3.9-4.1; R.I. 1.76/1.77-1.77/1.78. Bi. 0.008; Disp. 0.018. Ruby from Burma, Siam, Ceylon and (rarely) N. C. Sapphire from Kashmir, Burma, Siam, Ceylon, Australia and Montana.

Coscuez (or **Cosquez**) **emeralds.** Emeralds from Coscuez mine near Muzo mine, Colombia.

cosmites. A term which has been used to designate decorative materials, ornamental stones and gems.

costume jewelry. Term used in North America to describe jewelry designed especially for use with the current mode in women's garments, and usually confined to jewelry of little intrinsic worth. Usually contains imitations of gems and metal or materials of even less value, but the term is sometimes used for jewelry containing precious stones and metals.

cowdie gum. Same as **kauri çopal.**

Cr. Abbreviation for the element chromium.

crackled quartz. See **crackled stones.**

crackled stones. Stones in the structure of which numerous small cracks or fissures have been produced by heating and sudden cooling in water, at which time dyes may be forced into the

cracks producing stones of various colors. See **"Indian emerald."**

cradle. A trough in which placer miners wash or rock gem gravels.

craquelees (French). Rock crystal which has "crackled" producing slight iridescence. See **crackled stones.**

cream fancy rosée pearl. A cream pearl with a much more pronounced rosé orient than a cream rosé pearl.

cream pearl. Trade term for a **fine pearl,** with a cream-colored body without **orient** or **overtone** of any particular hue. Light, medium and dark cream pearls are distinguished; dark cream pearl is the equivalent of medium yellow brown. See **cream rosee pearl.**

cream rosée pearl. Same as **cream pearl** but with a rosé orient. Light, medium, and dark cream rosé pearls are distinguished. (Gems and Gemology). See **fancy pearl; rosé** or **rosée pearl.**

creolin. A kind of pudding stone (brecciated jasper).

creolite. Red - and - white banded jasper from Shasta and San Bernardino Counties, California. See page 258.

crested. Consisting of groups of tabular crystals forming ridges.

crisoberilo (Span.). Chrysoberyl.

crisocola (Span.). Chrysocolla.

crisoprasa (Span.). Chrysoprase.

cristal brilliant (Span.). Rhinestone or other imitation diamond.

cristal de roca (Span.); **cristal de rocha** (Port.). Rock crystal.

critical angle. In gemology, the angle beyond which total reflection occurs, which varies with the R.I. of the stone; the higher the R.I. the smaller the critical angle. Rays of light traveling inside the stones will be totally reflected back into the stones if they impinge upon the inside surface at an angle greater than the critical angle; but those impinging at a smaller angle will largely be refracted out of the stones.

crocidolite. A fibrous amphibole, also known mineralogically as blue asbestos. Its bluish color predominates in **sapphire quartz** and **hawk's-eye** but is altered to yellow brown or red in its **pseudomorph, tiger-eye,** which is sometimes incorrectly called crocidolite.

crocidolite opal. A common opal containing inclusions of crocidolite. See **opal cat's-eye.**

crocidolite quartz. Tiger eye.

cross facets. Same as **break facets.** See also **girdle facets.**

cross stone. A name for (1) **chiastolite** and (2) **staurolite.**

crown. That part of any facetted stone above the girdle.

crown glass. A term which refers to a group of glasses characterized by relatively low dispersion, and used only for cheapest gem

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imitations except occasionally for gems of lowest dispersion. S.G. usually 2.3-2.5; R.I. usually 1.49-1.53, although extreme limits are S.G. 2.1-2.6; R.I. 1.44-1.53. See **flint glass.**

Crown of the Andes. A crown set with 453 emeralds, weighing 1523 carats. Its center stone is a 45-c emerald. Said to have been worn by Atahualpa, last Inca of Peru, when he was taken prisoner by Pizzaro in 1532. Belongs to treasury of a religious organization. It was exhibited in U.S.A. in 1937-39.

crucite. Same as **andalusite.**

cryptocrystalline (krip″toe-kris′tal-in). Indistinctly crystalline, in which the crystalline grains are not discernible even under magnification, although an indistinct crystalline structure can be proven by the polarizing **microscope.**

crystal. (1) A crystalline solid bounded by natural plane surfaces. (2) A trade term for diamond of a particular nuance of color.

crystal aggregate. A number of crystals grown together so that each crystal in the group is large enough to be seen by the unaided eye and each crystal is more or less perfect. In gemology it differs from a **crystalline aggregate,** as a homogenous gemstone can be cut only from an individual crystal of a crystal aggregate. Same as crystal group.

crystal faces. The flat plane surfaces on crystals.

crystal form. Form or shape in which crystals occur; the cube, the octahedron and others.

crystal form, ideal. One in which the like faces are of the same size and shape.

crystal group. Same as **crystal aggregate.**

crystal habit. See **habit.**

crystal indices. Numbers or other representations which indicate the inclination of a crystal face to the crystal axes.

crystalline (kris′tal-in). Having crystal structure. The term is often used in this book to describe a substance having crystal structure without definite geometrical external form.

crystalline aggregate. Massive crystalline material made up of many particles, each an individual crystal too small to be seen by the unaided eye. When cut as a gem, can be polished with a smooth, reflecting surface. See **crystal aggregate.**

"crystalline emerald." (1) A doublet with quartz, rarely beryl, **crown** and green glass pavilion. (2) Any **emerald triplet.** See page 258.

"crystalline glass". German trade term for parti-colored glass used for gem imitations. (Schloss-

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macher)

crystalline grains. Minute crystals or crystalline particles which compose a granular crystalline aggregate. Distinguished from minute fiber-like crystals which compose fibrous crystalline aggregates.

crystalline material. Same as crystal material.

crystalline quartz. Term used to distinguish all the varieties of quartz which are not cryptocrystalline; **rock crystal; amethyst, citrine, cairngorm, rose quartz, tiger eye,** etc.

crystallite. A minute mineral form without a sufficiently definite crystal outline to indicate the species to which it belongs, but marking the first step in the crystallization process. Present in some **obsidian** and other glassy volcanic rocks.

crystallographic axes. In crystallography certain imaginary fixed lines of reference of indefinite length extending in definite directions and intersecting at the center of the crystal.

crystallographic direction (kris″tal-oe-graf′ik). Refers to directions in the various crystal systems which correspond with the growth of the mineral and often with the direction of one of the faces of the original crystal itself.

crystallographic plane. See **plane of symmetry.**

crystallography (kris″tal-og′ra-fi). The science which describes the form of crystals.

crystalloluminescence (kris′tal-oe-lue′mi-nes′ens). Light given off by certain substances in crystallizing from a solution. Arsenic oxide (As_2O_3) is an example.

crystal material. Any substance possessing crystal structure but no definite geometric form visible to the unaided eye. Also known as crystalline material.

crystal soldered emerald. Same as soldered emerald, but with rock crystal substituted for beryl.

crystal structure. An orderly arrangement of atoms; identical in all specimens of any given mineral.

crystal systems. Crystals are grouped according to certain of their systems: Cubic or **isometric system; tetragonal system; hexagonal system;** rhombic or **orthorhombic system; monoclinic system** and **triclinic system.** The recognition as systems, of classes or subdivisions of these systems as distinct and separate systems has been suggested, but never universally accepted. See **rhombohedral system; trigonal system.**

crystolon. Trade name for an artificially produced carbide of silicon SiC, used as an abrasive.

Cs. Abbr. for the element caesium.

ct. An abbr. for **carat.**

Cu. Abbr. for the element copper.

cube. A crystal form. Its six faces are squares and perpendicular to each other.

cubic. Having the form of a cube, as a cubic crystal; or referring to directions parallel to the faces of a cube, as cubic cleavage. See **cubic system.**

"cubic mineral or **stone".** Mineral or stone of the **cubic system.**

cubic system. A crystal system, same as **isometric system.**

cubo-octahedron. A crystal form which has faces of both the cube and the dodecahedron.

culasse (koo′los′) (French). The base or **pavilion** of a gemstone.

culet. The small facet polished across what would otherwise be the sharp point or ridge on the **pavilion** of a faceted stone, espe cially one which is brilliant cut.

Cullinan. Largest gem diamond ever found. Weighed 3106 m.c. Cut into nine large stones, including the largest cut diamond in the world, the Star of Africa, 530.2 m.c., and nearly one hundred smaller brilliants.

cultivated pearl. An alternate name for **cultured pearl.** Thought by importers of natural pearls in U.S.A. to be misleading in its meaning.

culture pearl. A rarely used variation of the term **cultured pearl.**

cultured blister pearl. An artificially induced **blister pearl.** The Chinese forerunner of the whole **cultured pearl.** Produced by placing an object, usually a hemisphere of mother-of-pearl, or a small Buddha in the shell of a fresh-water mussel which coated it with nacre. The hemispheres were cut from the shell and pegged to a hemisphere of mother-of-pearl, creating a round pearl doublet.

cultured pearl. An artificially propagated pearl of two types: (1) the cultured blister pearl, now rarely produced; and (2) whole cultured pearl consisting of a core, usually a sphere of mother-of-pearl over which layers of nacre, exactly like those in natural pearl, are deposited by the mollusc. The combined layers are rarely more than one millimeter in thickness and except on very small pearls, constitute but a comparatively thin coating over the nucleus, except in rare instances. However the pearl retains its luster and orient and rarely cracks, although if the natural coating is unusually thin it will wear off, exposing the mother-of-pearl core. See **cultured blister pearl; one year pearl.**

cupid's darts. Fleches d'amour.

curator. One who is in charge of a department in a museum.

curio stone. Term used in this book for a stone of little intrinsic value, which, however, combines

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uniqueness or souvenir value with a reasonable amount of beauty or durability. Examples: **cross stone, fairy stone, Niagara spar.** In other books on gems usually classed as an **ornamental stone.**

curvette. A misspelling of cuvette, probably a result of mispronunciation. See **cuvette.**

cushion cut. (1) A **cushion-shaped brilliant.** See also page 258.

cushion-shaped brilliant. The faceted style from which the present circular **brilliant cut** developed. A more or less square form with rounded corners.

cut (of a gem). The style or form in which a gem has been fashioned; as brilliant cut, emerald-cut.

cut stone. A stone which has been fashioned as a gem, as distinguished from an uncut or rough stone. See **cutting, fashioning.**

cutter. A term applied to a lapidary, or any other artisan who fashions gemstones.

cutting. (1) A term in general use to mean fashioning and therefore to include the operations not only of sawing (which technically is the only cutting operation in fashioning) but of grinding, polishing and faceting.

cuvette (koo″vet′). A term sometimes applied to the **intaglio** which has a raised cameo-like figure in a concave depression.

cyanite (kye′a-nite). Colorless, light blue, green or brown gem mineral, cut occasionally for collectors. Tri. Al_2SiO_6; H. 4-5 along length of the crystal and about 6-7 across it. S.G. 3.5-3.7; R.I. 1.71/1.73; Bi. 0.016. Disp. 0.011. From Brazil, Switzerland, India, Mass., Penn., N. C., Mont. and elsewhere. Preferably spelled *kyanite.*

cyclic. Circular as in certain types of **repeated twinning** that tend to produce circular forms.

cyclops agate. An eye agate with but one "eye".

cylinder (gem). Stone fashioned as a cylinder. Carved with designs, inscriptions or names, for use as seals. In the ancient business and social world drilled lengthwise for insertion of cord for carrying or wearing. Often fashioned of gem minerals.

cymophane. (sye′-moe-fane or sim′-oe-fane). (1) The variety name which includes all **chrysoberyl** with a girasol or chatoyant effect. (2) More specifically, **chrysoberyl cat's-eye** only. (3) An alternate but little used name for the entire species of **chrysoberyl.**

cyprine. (sip′rin or sip′rene.) A light blue variety of vesuvianite.

cyst pearl. True pearl, which occurs in a sac or pouch within the tissues of a mollusc as distinguished from pearl, which forms outside of the tissues or mantle, such as **blister pearl,** which is not a true pearl.

D

D. Abbrevation sometimes used for density in **specific gravity.**

dammar or **dammer.** A name applied to two different varieties of **resin:** (1) from the tree *Pinus dammara* of East Indian origin and marketed principally from Singapore; sometimes called cat's-eye resin. Has resinous odor. (2) That known as **kauri copal,** which smells like turpentine. These varieties (1) and (2) are often confused. Both are used as varnish and sometimes as amber imitations, or melted with amber, and often contain real or imitation insects. Both, unlike amber, are easily softened and made sticky by ether. According to Bauer, both become sticky when rubbed briskly. See **copal.**

Dana, Edward Salisbury (1849-1935). Author of numerous mineralogical books including *Text Book of Mineralogy*, 1877 (the fourth edition being edited and enlarged by W. E. Ford, 1932); also the sixth edition of *System of Mineralogy* of which his father, J. D. Dana, had been the original author, and which has worldwide acceptance as the standard reference work.

danburite. Dark orange-yellow, yellowish brown, or yellowish brown to colorless, greyish, transparent to translucent, mineral, cut for collectors. Resembles topaz, more in chemical composition and physical properties than in appearance. Ortho. $CaB_2(SiO_4)_2$; H. 7-7½; S.G. 3.0; R.I. 1.630/1.636. Phosphoresces reddish when heated. Fluoresces pale blue (Smith). First found near Danbury, Conn. Other principal localities: yellow, Burma and Madagascar; colorless, Burma and Japan. See also **"danburyite."**

"danburyite or **danburite."** Has been used for light red synthetic corundum. See **danburite.**

Danish amber. Amber from coasts of Denmark. See **Baltic amber.**

daourite. Same as **rubellite.**

Darwin glass. A form of tektite rich in silica, from Tasmania. S.G. 1.8-2.3. See **tektite.**

date stone jade. A term used by Chinese fo~ particular color quality of jade.

datolite (dat'oe-lite). A transparent to translucent mineral, rare-

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ly white and opaque. Greenish, yellowish, reddish, brownish, white and mottled varieties and the white porcelain-like variety found in Lake Superior region, which often contains copper inclusions, are sometimes cut as **a curio stone.** Mono. $HCaBSiO_5$; H. 5-5½; S.G. 2.9-3.0; R.I. 1.62/1.67; Bi. 0.44. From Italy, Norway, Germany, Tasmania, Conn, N. J., and other sources.

"Dauphine diamond" (do'feen). Rock crystal (quartz).

daurite. Corrupt spelling of **daourite.**

davidsonite. According to Schlossmacher, an American term for greenish yellow beryl.

D.C. A trade abbreviation meaning **diamond cut** or **brilliant cut.**

"dead pearl." Trade term for pearl with lusterless or dead white appearance.

decomposition. The breaking up or decay of compounds into simpler chemical forms.

decorative stone. (1) A stone used as architectural trimming in columns, mantles, and store fronts. May sometimes be set as in silver, or gold-filled jewelry, but then usually as curio stones. Examples: **malachite, marble.** (2) A term sometimes used alternately with **ornamental stone** but not in this glossary.

decrepitation. Violent breaking away of particles, with crackling sound, on sudden heating.

deer-horn pearl. Pearl from the "buck-horn clam" sometimes called the deer-horn.

deflagration (def"la-grae'shun). Sudden combustion; flashing like gunpowder.

deformed crystal. A crystal bent or twisted out of its normal shape, so that the angles between its crystal faces may differ widely from those on the regular form. See **distorted crystal.**

dehydrated stone. One from which the normal water content has been evaporated, usually by natural processes.

dekorite. Bakelite.

delatinite. Same as **delatynite.**

delatynite. A variety of amber from Delatyn in the Galician Carpathians, differing from succinite in containing rather more carbon (79.93%), less succinic acid (0.74-1.67%), and no sulphur (English). Schlossmacher classifies among Rumanian ambers as **delatenite,** (evidently a misspelling which other authors have copied) and gives H. 2-2.5; S.G. 1.0444.

delawarite. Aventurine feldspar from Delaware County, Pa.

delphinite. Yellowish green **epidote** from France. Same as thallite or oisanite.

Deltah pearls. Trade-marked name for both solid and wax-filled imitation pearls.

demantoid. (1) A transparent green

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variety of **andradite** (garnet) still often bought and sold as "olivine." Rare in large sizes. Disp. .057, highest of all important gemstones. Less hard than other garnets. Iso. $Ca_3Fe_2(SiO_4)_3$; H. 6.5; S.G. 3.8-3.9; R.I. 1.88-1.89. From Russia only. See **andradite; olivine.** (2) *As an adjective*, diamond-like.

Demantspar. From demantspath, the German name for **adamantine spar.**

demidovite. Blue compact chrysocolla from Nizhne, Tagilsk, Russia. Has been cut as a gem.

dendrite. A tree-like form as some crystal aggregates or as inclusions such as in **dendritic agate.**

dendritic. Having the form of a tree.

dendritic agate. Agate such as mocha stone and moss agate, which have inclusions of iron or manganese oxide arranged in forms resembling trees. ferns and similar vegetation.

dendritic opal. Common opal with tree-like inclusions.

Densiscope. A name for a specific gravity apparatus made in Vienna. Designed especially for obtaining S.G. of pearls as an indication, but not a proof, of their genuineness (cultured pearls usually have a higher S.G.).

density. The quantity of matter in a given space. When used in describing a property of gemstones or their substitutes, refers to their **specific gravity.**

dentelle. French word meaning lace, but in U.S.A. a misnomer for glass imitation stone.

·**Derbyshire spar.** Massive fluorite.

derbystone. Amethyst colored fluorite.

descriptive gemology. The classification, composition, properties, trade grades, sources, and the methods of recovery, fashioning and use of **gem minerals** and **gem materials** and their substitutes. See **gemology.**

desert glass. Obsidian or moldavite.

Detectoscope. Manufacturer's trade name for (1) a misnamed hand apparatus which both magnifies and illuminates stones from above, thus actually making it more difficult to detect inclusions; (2) a manufacturer's trade name for a gem-testing instrument employing eight different color filters.

determinative gemology. The science of differentiating (1) between the various gemstones (2) and between gemstones and their substitutes, and (3) between such substitutes.

determinative inclusion. In determinative gemology, an inclusion, the nature of which assists in the determination of the exact identity of an **unknown stone.**

detrital. Of, or pertaining to de-

tritus.

detritus. Loose particles or fragments of rock.

devitrification. The change of a solid substance from glassy (amorphous) structure to crystalline structure, after solidification.

Devonshire Emerald. A splendidly formed crystal from Muzo mine, Colombia, presented in 1831 to the Sixth Duke of Devonshire by Dom Pedro (once Emperor of Brazil). Now in British Museum (Natural History). Weight 1383.95 m.c.; 2″ in diameter and about the same length; intense grass green.

deweylite. Eppler classifies as a reddish, greenish, light yellow, or white ornamental stone cut in U.S.A. Dana classifies as an amorphous mineral near and occurring with serpentine, in Mass., Penna., and overseas. H. 2-3.5; S.G. 2.0-2.2.

diabase. A dark igneous rock. Sometimes used as a decorative stone. Composed essentially of plagioclase and augite (a **pyroxene**).

diakon or **perspex.** A plastic used in Great Britain to imitate ivory. S.G. 1.2; R.I. 1.50 (Anderson)

dial gauge. A measuring device with jaws, the movement of one of which is indicated on a dial. More accurately called a **dial micrometer.** See **gauge; Leveridge gauge.**

diallage. A pyroxene mineral, grayish to green or dark green, also brown, sometimes exhibiting schiller. Mono. H. 4; S.G. 3.2-3.35; R.I. 1.68; Bi .024. (Dana) Schiller varieties used rarely as ornamental stone. (Bauer) Transparent varieties sometimes cut as gems. (Kraus)

dial micrometer. See **micrometer.**

diamantiferous (dye″a-man-tif′er-us). Bearing or containing diamonds.

diamond. Hardest of known substances. Invaluable as abrasive in industry and when transparent and comparatively flawless is highly valued as a gem which occurs in various tones of red, violet-blue, green, orange and yellow as well as colorless and brown. Its hardness and high R.I. permits its fashioning as the most brilliant of gems. Pure carbon. Iso. H. 10; S.G. 3.5; R.I. 2.42; Disp. 0.044. From various sections of south, southwest and middle Africa, central, east, and northeast South America, India, Borneo, Australia. Also found in U. S. A., but not in commercial quantity.

diamond cut. *In the colored stone trade* means **brilliant cut.**

diamond dust. Same as **diamond powder.**

diamondiferous. Same as **diamantiferous.**

Diamond Imperfection Detector. Similar to **Diamondscope,** except that it employs a monocular

microscope; is also manufactured and patented by G.I.A.

diamond powder. Small particles of diamond used often in loose form in grinding or in the first polishing of colored stones and for faceting and polishing diamonds. Also moulded or forced into the surface of tools used for similar purposes.

Diamondscope (trademarked name). An especially designed illuminator employing a gemstone holder of special design, a binocular microscope and a combination baffle which affords examination of stones by either (a) transmitted light or (b) by reflected light incident to all pavilion facets only, and against either a white or black background. Has the effect of eliminating most reflections from the facets on the crown so that inclusions (imperfections) may be easily observed and identified. Used for both the identification of colored stones and the grading of diamonds. See also **Diamond Imperfection Detector.**

diamond spar. Adamantine spar.

diaphaneity (dye″a-fa-nee′i-ti). The property of being either **transparent** or **translucent.**

diaspore (dye′a-spore). Transparent to semitranslucent colorless, grayish, yellow or violet mineral, sometimes cut for collectors. Also brown. Ortho. $Al_2O_3.H_2O$; H. 6.5-7; S.G. 3.3-3.5; R.I. 1.70/1.75; Bi. 0.048. From Urals, Mass., Pa. and other sources.

diaspro (Italian). Jasper.

diasteria. An asteria which exhibits a star by transmitted light only. Of little or no importance as a jewel. See **asteria.**

diasterism. Asterism seen by transmitted light. See **asterism; epiasterism.**

diatom. A microscopic plant.

diatomaceous. Formed from the silicious skeletons of **diatoms.**

dichroic colors. A term loosely used to refer to either the two colors observable in a dichroic stone or the three colors in a trichroic stone. Same as **twin colors.** See **dichroscope.**

dichroic gem or **stone** (dye-kroe′-ik). One which possesses **dichroism.**

dichroism. The property of most doubly refractive colored minerals of the tetragonal and hexagonal system of transmitting two different colors in two different (right angle) directions. See **pleochroism; trichroism; dichroscope; polariscope.**

dichroite. Same as **iolite.**

dichroscope (dye′kroe-scope). An instrument designed to detect two of the different colors emerging from pleochroic (i.e., dichroic or trichroic) gems. Contains a rhomb of Iceland spar and a lens system in a short tube, and exhibits the two colors

side by side.

diffraction. A modification which light undergoes, as in passing by the edges of opaque bodies or through narrow slits, or when transmitted through or reflected from a diffraction grating in which the rays of white light are broken into a series of colored spectra. The optical phenomena of diffraction also takes place upon reflections of light from the sharp, jagged edges of broken glass and from the edges of the minute scales which make up the surface of a nacreous pearl. See also **orient.**

diffraction grating. .A grating of fine parallel lines ruled on glass or metal, used to produce spectra by diffraction. See **grating.**

diffraction spectroscope. See **spectroscope.**

diffusion column. A long, narrow test tube partially filled with two heavy liquids such as methylene iodide with about five times as much benzol added. The benzol and methylene iodide gradually diffuse and a mixed liquid results whose density (S.G.) increases gradually from top to bottom. Stones of S.G.'s within the limits of the liquid settle at the levels which correspond with their particular densities. See **S.G.**

diggings. Any mineral deposit or mining camp. In U.S.A. applied to placer mining.

dike. A vertical or inclined fissure in the earth's crust which has been filled with igneous material forced upward while molten and become rock by cooling.

dimetric system. Same as **tetragonal system.**

dimorphism. See **polymorphism.**

diopside or **alalite** or **malacolite.** A mineral of which the transparent bottle-green varieties are often cut as gems. Monoclinic; $CaMg(SiO_3)_2$; H. 5-6; S.G. 3.2-3.4; R.I. 1.67/1.70. Sources Italy, Ontario, New York. See also **violane, chrome diopside, mayaite, tuxtlite.**

diopside cat's-eye. Fine green chrome-diopside cat's-eye, from Burma. (Smith)

diopside-jadeite. A term sometimes used for pyroxene, intermediate between jadeite and diopside, from Mexico or Central America, as distinguished from soda-jadeite, the jadeite proper of Burma. See **mayaite.**

dioptase (dye-op'tase). A mineral often approaching emerald in color. Cut as gems for collectors but is usually imperfectly transparent and cleaves too easily for extensive commercial use. Hex. H_2CuSiO_4. H. 5; S.G. 3.3; R.I. 1.64/1.69-1.66/1.71; Bi. 0.051-0.054; Disp. 0.022. From Russia, the Congos, S. W. Africa, Arizona, and other sources. See **"copper emerald."**

direct weighing method. Same as **hydrostatic weighing.**

dirigem. Copyrighted trade name for green synthetic spinel.

disp. Abbreviation for **dispersion.**

dispersion. The property of a transparent gemstone or other prism to separate white or nearly white light into colored rays, white light being separated into the spectrum colors; the interval between such colors varies in different gemstones, and is usually expressed by the measure of the difference between the wavelengths of the red ray (Fraunhofer line B) and the violet ray (Fraunhofer line G). This measure is used in this book and abbreviated **disp.** as, zircon, disp. .038. Same as **fire.**

disseminated. Scattered through a rock or other mineral aggregate in the form of grains or pebbles.

disseminated crystals. Crystals which are found not attached to the mother rock; sometimes with well-developed faces and doubly terminated.

disthene. Same as **cyanite.**

distinct dichroism, trichroism or **pleochroism.** See **pleochroism.**

distorted crystal. A crystal whose faces have developed unequally, some being larger than others. Some distorted crystal forms are drawn out or shortened, but the angle between the faces remains the same. See **deformed crystal.**

distrene. A polystyrene plastic S.G. 1.05; R.I. 1.58. (Anderson) Adaptable to imitating amber.

ditroïte (German). **Sodalite.**

divergent. Extending in different directions from a point; radiating.

doblete (Span.). Doublet.

doctored pearls. Pearls which have had surface cracks filled, have been artificially colored, or which have been made more spherical by removing certain portions other than an entire layer as in peeling.

dodecahedral (doe″dek-a-hee′dral). Pertaining to the rhombic dodecahedron.

dodecahedron (doe″dek-a-hee′dron). A twelve-faced geometrical crystal form of the isometric system. If the faces have four edges each of equal length, it is a *rhombic dodecahedron;* if five edges (with one longer than the others) it is a *pentagonal dodecahedron* or *pyritohedron.*

Doelter, Dr. Cornelio A. (1850-1930). Professor and Director Mineralogical Institute University of Vienna. Author of *Edelsteinkunde,* 1893, and of many important books and pamphlets on geological and mineralogical subjects.

dog-tooth pearl. Tusk-like baroque pearl.

dollar value (of pearl). Same as the **once.**

domatic (doe-mat'ik). Relating to a dome; a horizontal prism.

dot agate. White chalcedony with round, colored, spots.

double cabochon. See **cabochon.**

double pearl. A pearl formed of two distinct pearls united under a nacreous coating.

double refraction. The refraction and separation of each of the single rays of light into two rays which occurs as they pass obliquely from air into minerals of any but the isometric system. The two rays then travel at different velocities and vibrate in perpendicular planes. The polariscope or dichroscope or crossed Nichols reveal the presence of double refraction. See **birefringence; Bi.; anomalous double refraction.**

double rose cut. Form of cutting consisting of two rose-cut forms joined along their bases. See **rose cut.**

double rosette. Same as **double rose cut.**

doublet. An **assembled stone** of two portions, bound together by a colorless cement or fused together. If both portions are of the species being imitated, it is a *genuine doublet;* if of one portion it is a *semigenuine doublet;* if it contains no portion of the species being imitated, it is a *false doublet;* if no portion is a geniune mineral it is an *imitation doublet.* See also **hollow doublet.** See page 258.

doubly refractive. Possessing the property of **double refraction.**

doubly terminated crystals. See **termination.**

D.R. Abbreviation for **double refraction.** Used by British gemological authors more specifically to refer to the strength of double refraction or **birefringence,** and hence the equivalent of **Bi.**

dragomite. Rock crystal from Marmarosch, Galicia. (Schlossmacher)

dragonite. Fabulous stone said to be found in the head of the flying dragon (Pliny). Probably a rounded quartz pebble.

Dragon Lord Ruby. See **Gnaga Boh Ruby.**

dravite. Brown tourmaline.

Dresden Green. A famous diamond. 41 m.c.; set in an ornament; in Green Vault of Dresden.

Dresden White. Same as **Saxon White.**

drilled pearl. Pearl through which a hole has been entirely drilled for stringing or drilled partly through for attachment on a pin or peg for use as earrings, rings, etc.

drop cut. Any form of cutting for gems suitable for use in pendants, earrings, etc., such as the **briolette** and **pendeloque.**

drop-form cut. Same as **drop cut.**

drop or **drop-pearl.** Pearl of pear

or oval shape, especially suitable for pendants, earrings, etc. See **pear pearl.**

"druggists' pearls." See **Mytilus pearls.**

druse (drooze). A surface covered with small projecting crystals; a **geode.**

drusy or **drused.** Covered with minute crystals closely crowded, giving a rough surface with many reflecting faces.

dry diggings. Dry alluvial or placer mining operations.

dry ice test. A test for the detection of glass imitations. If a crystalline substance such as a gem mineral be placed in contact upon a piece of dry ice (solidified carbon dioxide, CO_2) a squeaking noise can be heard. This is not true of noncrystalline substances such as glass and plastic.

duck bone jade. Descriptive term applied by Chinese to a particular color grade of jade.

Dudley Diamond. Same as **Star of South Africa.**

Duke of Devonshire Sapphire. A famous sapphire weighing 100 m.c. last reported in possession of the Duke.

dull. Lacking in brightness or intensity; almost devoid of luster.

dumortierite (due-more'ti-er-ite). Intense blue to greenish blue, transparent to translucent ornamental stone. H. 7; S.G. 3.2-3.4.

dumortierite quartz. A massive, opaque variety of quartz (aggregate) colored by intergrown crystals of dumortierite. Deep blue to violetish blue, sometimes dull or blackish blue.

dupa xaga. Term used by Pomo Indians of California for harder obsidian than **bati xaga.** The term means obsidian, which cuts. The variety was used for razors. (S. H. Ball)

durchscheinend (German). Translucent.

durchsichtig (German). Transparent.

dust pearls. Small seed pearls weighing less than 1/25 of a grain.

"dutch bort." Zircons found in the South African diamond mines.

Dutch East Indies pearls. Similar to, and often classed in trade, as **Australian pearls.**

dyed pearl. Pearl which has been dyed any one of various colors, the usual process being to force dye into the pearl by way of the drill hole.

dyed stones. Minerals which are artificially dyed to improve their color or to imitate a more valuable stone. Usually fade or discolor.

dyke. Same as **dike.**

dysluite. Zinc-manganese-iron, brownish **gahnite** from Mass. and N. J.

E

Eacret Benitoite. A 7.6-c. flawless **benitoite.** Found by discoverer of mine and purchased by Godfrey Eacret of San Francisco, it is the largest gem quality benitoite known. Now in Roebling Collection, U. S. National Mus., Washington, D. C.

eaglestone or **aetites.** A concretionary nodule of ironstone of the size of a walnut or larger. The ancients believed that the eagle transported these stones to her nest to facilitate the laying of her eggs (Webster). Evidently a **quartz** pebble (Kunz).

ear-shell. The popular name for *Haliotis*. See **abalone.**

earth amber. A term rarely used to distinguish mined amber from sea amber. Also to describe amber, the outer portion of which has deteriorated in luster, transparency, and color.

earth stone. A term sometimes applied to mined **amber** to distinguish it from sea amber.

earthy. Consisting of minute particles loosely aggregated; clay-like, dull.

East African pearl. See **African pearl.**

ebonite. A name for vulcanized rubber used sometimes in mourning jewelry.

écaille. French word meaning shell and used by the trade in France and some other nations to describe tortoise shell. Often applied by unscrupulous dealers to imitation of tortoise shell.

eclat. The splendor or flash of a gem. (Briggs).

Edelstein. German word for precious stone. Literally "noble stone." See **Schmuckstein.**

Edelsteinkenner or **Edelsteinkundiger** (German). Gemologist.

Edelsteinkunde (ae'del-shtine-koon-da) (German). The science of precious stones, gemology.

Edith Haggin de Long Ruby. A star ruby, measuring 1½ inches (4 cm.) and 1 inch (2.5 cm.) across and weighing 100 metric carats. From Burma. In Am. Mus. of Nat. Hist., N. Y.

edible oyster. See **Ostrea edulus.**

edinite. Prase.

edisonite. A name proposed for a mottled blue turquoise.

Edwardes Ruby. A fine ruby crystal presented to British Museum in 1887.

efferverscence. Evolution of gas in

bubbles from a liquid.

e.g. Abbr. meaning *for example.*

egeran. A variety of vesuvianite. Found near Eger in Western Bohemia, in region annexed by Germany from Czechoslovakia in 1939.

egg jade. A descriptive term applied by the Chinese to a particular color grade of jade.

egg pearl. Pearl shaped like an egg.

egg-shell turquoise. Turquoise with crackled appearance due to fine, irregular arrangement of matrix which appears like cracks in an egg shell.

Egyptian alabaster. Banded calcite found near Thebes, Egypt. Same material as **onyx marble.**

Egyptian emerald. Emerald from the ancient Egyptian mines of Gebel Sikait, Gebel Zarbara in northern Etbai, near the Red Sea, which were rediscovered in 1818, but principally produce cloudy stones of light color.

Egyptian jasper. (1) Banded yellow, red, brown or black jasper from Egypt. (2) Misnomer for an orbicular jasper from beaches in the state of Washington.

Egyptian pearls. Pearls from Egyptian shore of Red Sea. Cream to yellowish body color. See **Red Sea Pearl.**

Egyptian pebble. (1) Jasper pebbles usually from deserts of Egypt. (2) Same as **Egyptian jasper.**

Egyptian peridot. Term properly applied only to peridot from St. John's Island in the Red Sea.

Egyptian turquoise. Term properly applied to turquoise found on the Sinai Peninsula, Egypt, from which turquoise has come since Biblical times; usually greenish blue, sometimes fine blue and unusually translucent.

eight cut or **eight side cut.** Same as **single cut.**

Eisenberg. A trade name for gowns and dress accessories, including jewelry called Eisenberg Ice. This contains some genuine, but principally imitation, gems, which because sold as "genuine Eisenberg" is sometimes thought to be some unusual genuine gemstone.

Eisenkies (German). Pyrite (Dana).

Ekaterinburg. The former name of **Sverdlovsk.**

elaeolite. A mineral sometimes cut as an ornamental stone. Translucent specimens sometimes exhibit a chatoyant effect. Reddish, brownish, greenish, or grayish. See **nephelite.**

El Aguila Azteca Opal ("the Aztec eagle"). Fine 32 c. fire opal carved with head of Mexican sun god. In Field Mus. of Nat. History. Once in **Hope collection** (S. H. Ball).

elastic. The property of springing

back to its original form when bent, as in thin sheets of mica.

El Doradoite. A locally coined trade name for a blue quartz, sometimes cut as a gemstone. From El Dorado Co., Calif.

electric calamine. Same as **hemimorphite.**

"electric emerald." A glass imitation of emerald.

electromagnetic spectrum. The entire range of electrical energy, extending from the extremely long rays of radio and electricity at one end to the extremely short X rays at the other. The visible spectrum (visible light) is included.

electrons. The particles or electric charges which make up the greater portion of the atom and which revolve about the nucleus of the atom. See **protons.**

electrum. (1) An obsolete name for amber. (2) The alloy of gold and silver.

elektron. Ancient Greek word for amber.

element. A form of matter which cannot be decomposed by any chemical means; for example, carbon, oxygen, silicon, etc.

element stone. Opal.

elephant jasper. Dark to light-brown jasper with scattered small, black dendritic inclusions.

"Elie ruby." Red pyrope (garnet) from Elie, Scotland.

Elster pearl. Pearl from a mussel native to the Elster River, Saxony, a part of Germany.

"Ely ruby." Same as **"Elie ruby."**

emaldine. Same as **emildine.**

ematite (Italian). Hematite.

emerada. Trade-marked name for a yellowish-green synthetic spinel.

emerald. (1) The bright full green variety of beryl. There is as yet no standard for a dividing line between emerald and either **aquamarine** or the lighter green variety which is known as **green beryl.** Colored by chromium, a fine emerald is one of the five most valuable gems. Its full bright green color is possessed by no other gemstone but **emerald jade.** H. 7.5; S.G. 2.67-2.77; R.I. 1.57/1.58-1.58/1.59. See **synthetic emerald.** (2) A color designation meaning the color of an emerald, as in emerald glass, emerald jade, etc., although the meaning is often incorrectly extended to mean any color approaching the green of emerald.

emerald cut. A form of step cutting. Favored for diamonds and emeralds and many other colored stones when the principal purpose is to enhance the color in contrast to the brilliancy or to emphasize the absence of color in diamonds. Rectangular or square with rows (steps) of elongated rectangular facets on the crown and pavilion, parallel

to the girdle; usually with corner facets. Corresponding facets are generally placed on the girdle. The number of rows or steps may vary. See **square emerald cut; sharp-cornered emerald cut.**

emerald filter. Same as **emerald glass.**

emerald glass. (1) The usual trade name for a color filter through which genuine emeralds and some other genuine stones appear reddish to violetish while glass imitations and some genuine stones appear green. Same as **beryloscope.** See also **Walton filter; Detectoscope.** Also (2) any green glass such as used in manufacture of imitation stone. (3) A glass of emerald color made by fusing beryl. S.G. 2.5; R.I. 1.52. (Anderson)

emeraldine. A coined name for green dyed chalcedony. Also a name for a dark green dye for fabrics, of no gemological interest.

"emeraldite." An incorrect and misleading spelling of **emeralite.**

emerald jade. Semitransparent to translucent jadeite of emerald color; most desired color in North America. Also called **imperial jade.** See also **Fei Ts'ui.**

"emerald malachite." Same as **dioptase.**

emerald matrix. Any rock embedded with emerald, especially one composed of feldspar and quartz (Eppler).

"emerald triplet." An **assembled stone** consisting of (1) rock crystal body with a thin top plate of garnet and lower pavilion of glass, (2) a crown or rock crystal or green or colorless beryl (less often) with a pavilion of glass, rock crystal, or (rarely) beryl; fused together with green cement and also known as a **"soldered emerald."** If crown and pavilion are both glass it is an **imitation triplet.** See page 258.

emeralite. Light green tourmaline from Mesa Grande, Calif.

"emeraudine." Misnomer for dioptase.

emeraud soudé (French). **Soldered emerald.** Same as **soudé emerald.**

emery. Impure granular (powdered) variety of common corundum. Often mixed with other minerals of lesser hardness.

emildine. A variety of **spessartite;** from South Africa.

emilite. Same as **emildine.**

emission spectrum. The field seen in a spectroscope or spectrographic photograph when a source of light (such as a **sodium light**) is viewed.

Empress Eugenie Diamond. A famous 51 c. Indian diamond once owned by Eugenie, wife of Napoleon III of France. Now belongs to Gaekwar of Baroda.

enamel. A vitreous composition usually opaque or semiopaque, applied by fusion to the surface of precious metals and other substances. Has been used, particularly in the ancient world, to imitate gemstones in jewelry.

en cabochon. See **cabochon.**

endiopside. A mineral intermediate in composition between **enstatite** and **diopside.** (Spencer).

endomorph. A crystal of one species inclosed within one of another, as one of rutile in quartz (Webster). Here rutile is an endomorph and quartz is a **perimorph,** and rutile is said to be endomorphic and to be **endomorphous** in quartz.

endomorphous. Of, or pertaining to, **endomorph.**

endoscope. In gemology, an instrument which affords a magnified image of the drill hole of a pearl. Used to distinguish between genuine and cultured pearl. A modification of it directs onto the walls of the drill hole a tiny beam of light, the subsequent path of which through the pearl reveals whether the structure of its core is concentric (real pearl) or parallel (cultured pearl). See also pearl-testing **miscroscope.**

endoscopic stage. A special microscope stage used for distinguishing between drilled genuine and cultured pearls. Incorporates the principle of the **endoscope.**

"endura emerald." A coined name used for glass imitation sold by a particular distributor and still sometimes used for any glass imitation of emerald.

engelardito (Span.). Zircon.

English amber. See **British amber.**

English brilliant cut. A cushion-shaped brilliant with eight star facets, eight upper break facets, eight lower break facets, four pavilion facets, a table and a culet. See **star cut.**

"English crystal." A term used for fine tableware, including "cut glass." See also **imitations; glass.**

English Dresden Diamond. A famous 119.5 c. Brazilian diamond cut to 76.5c. It was sold to Gaekwar of Baroda.

English, George Letchworth, (1864-1944). Consulting Mineralogist, Ward's Natural Science Establishment, Inc. Compiler of *Descriptive List of New Minerals, 1892 to 1938.* Author of *Getting Acquainted with Minerals.*

enhydros. (Greek, "holding water"). Term used in describing nodules of chalcedony containing water. Such chalcedony is found in Uruguay, Australia and India, and is a **curio stone** of no gem value.

enstatite (en'sta-tite). A mineral of which a translucent yellowish-green to bluish-green variety was found in **blue ground** in So. Africa. This and a fibrous variety which, cut cabochon, pro-

duces a **chatoyant effect,** have been fashioned as gems for collectors. Enstatite is also white, grayish, yellowish or brownish. Ortho. $(Mg,Fe)SiO_3$. H. 5.5 Gem varieties S.G. 3.1-3.3; R.I. 1.66/1.67. Bi. 0.009. From Burma and other sources. See **bronzite.**

"enstatite cat's-eye." Enstatite which, when cabochon cut, has a **chatoyant effect,** but not a well-defined eye.

eosite. A trade name for a rose-colored **Tibet stone.**

epaulet (cut). A five-sided modern cut of the step cut which resembles an epaulet in outline.

epiasteria. An asteria which, cut cabochon and in the correct crystallographic direction and observed by **reflected light,** exhibits the optical phenomenon of a star. See **asteria, diasteria.**

epiasterism. Asterism seen by reflected light, as in star ruby or sapphire which is cut cabochon to reveal the asteria.

epidosite. A mixture of epidote and quartz sometimes cut cabochon as a curio stone.

epidote (ep'i-dote). A mineral of which the more transparent, pistachio-green variety has sometimes been cut as a gem for collectors. Epidote is also yellow, red, brown, black, gray or colorless. Mono. $HCa_2(Al,Fe)_3Si_3O_{13}$. H. 6-7; S.G. 3.2-3.5; R.I. 1.73/1.77. Bi. 0.039; Disp. 0.030. From Italy, Norway, France and other sources.

epithelial sac (ep"i-the'li-al). A sac composed of **epithelium,** as is the **pearl sac.**

epithelium. A layer of cellular tissue whether external or internal, bounding a surface in the body of an animal.

Eppler, Dr. Alfred (1867-1923). Author of *Edelsteine und Schmucksteine.* 1912.

Eppler, Dr. Wilhelm Fredrick (1902-). Author *Der Diamant und Seine Bearbeitung,* 1933; also edited, revised and enlarged his father's *Edelsteine und Schmucksteine,* 1934.

Erb & Gray refractometer. A **gemological refractometer** made in two models, one (1) with a fixed hemisphere of glass and (2) with a rotating hemisphere similar to the **Tully refractometer.** See also **Rayner refractometer, Smith refractometer.**

erinide. Trade-mark name for a yellowish green synthetic spinel.

erinoid. A **casein** plastic used for moulding many common objects and sometimes for inferior gem imitations. S.G. about 1.33; R.I. about 1.53-1.54.

escarboucle (Fr.). Carbuncle (garnet).

esmeralda (Span. and Port.) Emerald.

espectroscope (Span.). Spectroscope.

espinela (Span. and Port.). Spinel.

essence d'orient. (e"sans' doe" rian'). A substance imitating the luster or orient of a pearl; made

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from silvery scales of underside of a fish, known as the "bleak," found in Mediterranean waters. Used in manufacture of most imitation pearls.

essonite. Same as **hessonite.**

estealita (Span.) Soapstone.

etched. Having the surface roughened by solution or corrosion.

ethical gemology. The study of the correct and incorrect nomenclature of gems, with emphasis on names and terms which may mislead or deceive purchasers.

euclase (ue'klase). A very rare gem, the light blue variety being held in great esteem by collectors, but lacking in toughness usually desirable in gemstones. Transparent, pale blue, pale bluish-green and colorless. Mono. Be(Al, OH)SiO_4. H. 7.5; S.G. 3.0-3.1; R.I. 1.65/1.67. Bi. 0.019; Disp. 0.016. From Russia, Brazil and other sources.

euxenite. A mineral species belonging to the group of minerals often called rare earths. Has, in rare instances, been fashioned as a gem. Brownish black. H. 6½; S.G. 4.7-5.0.

evaluate. To fix a **valuation,** but not to appraise.

evaluation. The fixing of a valuation, not an appraisal. Used in preference to the word **valuation** which is often confused with **appraisal.**

even fracture. When the surfaces of the fracture are smooth and even.

"evening emerald." Peridot, which loses some of its yellow tint by artificial light, appearing more greenish.

exfoliation. Splitting apart and expansion of flakes or scales on being heated.

extinction; extinction position. When employing a polarizing microscope, or polariscope for the examination of gemstones in parallel polarized light, upon rotation, the field changes from light to dark every 90 degrees, provided the stone is doubly refractive and sufficiently transparent. The change to dark is known as extinction. Singly refractive stones either exhibit no change, or if they possess anomalous double refraction, the change almost always occurs at irregular intervals.

extraordinary ray. In a uniaxial mineral, the ray which, depending upon its direction through the crystal, varies in refractive index. See **ordinary ray.**

eye agate. Agate with concentric bands which may be of various alternating colors, about a dark center.

eye glass. Any glass worn over the eye to aid vision. The term is also often used by jewelers to mean an eye loupe.

eye loupe. Any loupe so constructed that it can be held in the eye socket; used in watch making, gem grading and setting, engraving, etc. See **loupe.**

eyestone. Thomsonite.

ezteri (Spanish-American). A green jasper with reddish veins.

F

F. Abbr. for the element fluorine.

face. In crystallography, one of the plane surfaces which form the sides, and often theoretically at least, the ends or **termination,** of a **crystal.**

facet. One of the small, plane, or approximately plane, polished surfaces which are placed upon gemstones fashioned as **brilliant cut, step cut** or any other **faceted cut.**

faceta (Spanish). Facet.

facet cut or **faceted cut.** A type of cut gem bounded by plane faces as distinguished from **cabochon** cut or other unfaceted cut. See **facet; cutting.**

faceting machines. Mechanical devices for holding stones during grinding or polishing facets upon them. By their use facets can be placed at the exact angles which theoretically result in producing the most brilliant stone. Rarely used in fashioning diamonds or the more valuable colored stones where recovery of a greater amount of weight is more important than maximum brilliancy. See **grinding; polishing.**

faceting tool. See **faceting machine.**

facsimile. An exact copy or reproduction. See **imitations; synthetic stones.**

fading. A term loosely used to refer to loss of color, or to any undesirable change of color in a gemstone.

Fahrenheit. Pertaining to the scale used by Fahrenheit in the graduation of his thermometer; as, 40° Fahrenheit (or 40° F).

faience. A term now applied to all kinds of glazed pottery, including the type which was used in the ancient world to imitate opaque stones such as lapis lazuli and turquoise. See **ceramic.**

fairy stone. A name for (1) **staurolite,** or (2) the variety of staurolite which occurs in the form of a **twinned crystal.**

falcon's-eye. German name (Falkenauge) for hawk's-eye.

fales. Stones with two, or more, differently colored layers.

"false amethyst." Purple **fluorite.**

"false chrysolite." Same as **moldavite.**

false cleavage. Same as **parting.**

"false diamond." Rock crystal.

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false doublet. See **doublet.**

"false emerald." Green **fluorite.**

"false hyacinth." Same as **hessonite.**

false lapis. (1) **Lazulite.** (2) Blue-dyed agate or jasper. See **"Swiss lapis."**

false nephrite. A misnomer for serpentine, "Transvaal jade" or other green mineral similar in appearance to **nephrite.**

"false ruby." Red **fluorite.**

"false sapphire." Blue **fluorite.**

"false topaz." Same as (1) **topaz quartz;** (2) yellow **fluorite.**

falun brilliants. Name for theatre jewelry made of a lead-tin alloy.

fancy agates. Agates showing delicate markings and intricate patterns.

fancy cut. A term used for styles of cutting which are little used, or are new at the moment. Includes those defined in this book as **modern cut.**

fancy pearl. A pearl with a body color of white or cream and a **rosé orient** superimposed on an **overtone** of some hue such as blue-green, violet, purple, blue or green. (*Gems & Gemology).* See **colored pearl.**

fancy sapphire. (1) A sapphire of any hue other than blue or colorless, although colorless is included by some. See page 258.

fancy stone. (1) A variety of a gemstone which is less often encountered commercially, such as a **fancy sapphire,** or (2) an unusually fine gemstone, particularly a diamond of unusually fine **color grade.**

Farrington, Oliver Cummings, Ph.D. (1864-1933). Curator of Geology, Field Museum (1894-1933). Author of *Gems and Gem Minerals,* 1903; Museum booklets on amber, agate, and famous diamonds.

Fasergips (German). Fibrous gypsum, i.e., **satin spar.**

fashioned gemstone. One which has been cut and polished. See **fashioning.**

fashioning (of gems). Includes slitting, cleaving, cutting, polishing, and other operations employed in preparing rough gem material for use in jewelry; also the determination of the proportions.

Fashoda garnet. Dark red to brownish-red pyrope garnet from Tanganyika.

"Fashoda ruby." (1) Iron-rich pyrope garnet from Tanganyika (Smith). Same as **Fashoda garnet.** (2) In the trade refers usually to any red garnet.

fat amber. Opaque yellowish amber.

fat stone. A name for **nephelite.** Its fractured surfaces have greasy luster.

fatty amber. Same as **flohmig amber.**

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fault. Anything within, or on the surface of a stone which decreases its beauty or value.

faulty structure (of stones). Irregularities of crystallization; also subsequent breakage or separation between the atomic planes, such as a **cleavage crack, cloud,** or **feather.**

Fe. Abbr. for the element iron.

feather. (1) A trade term (a) commonly applied to almost any flaw inside a stone, and (b) more specifically, to a jagged irregularly shaped fracture which is white in appearance. (2) In **determinative gemology,** a series of liquid inclusions which under the microscope are elongated and irregular in shape, and grouped together in orderly proximity to each other in a manner which makes them resemble the over-all pattern of the feathers on a bird's wing.

feather gypsum. Same as **satin spar.**

Federal Trade Commission. A Government commission of the U. S. A. which, among other functions, promulgates rules regarding the use, in the representations or sale of merchandise, of words or terms which might mislead or deceive a buyer.

Federgips (German). Same as **Fasergips.**

Fei Ts'ui. Chinese name once applied only to kingfisher jade, and more recently to bright green or bluish greens. Like quality names of diamonds in U.S.A., the term has become meaningless and sometimes is applied to all qualities with the possible exception of dark opaque jadeite. See **kingfisher jade; Pi Yü; Pai Yü.**

feldspar. A group of closely related minerals species, the only gemologically important of which are **albite, labradorite, microcline, oligoclase** and **orthoclase,** which yield several gem varieties. See also **plagioclase.**

feldspar-apyre (French). Andalusite.

felspar. A British spelling of feldspar.

felted structure. See **matted.**

female. A term rarely applied to light and pale colored specimens of a gem variety. See **feminine, male ruby, masculine.** (Obsolete.)

female ruby, sapphire, etc. A term rarely applied to light or pale colored specimens of ruby, sapphire, etc. See **feminine; masculine.** (Obsolete.)

feminine. Term applied to stones of a pale color. (Almost obsolete.)

fereto (Span.). Hematite.

ferozah or **firozah (firuza).** Persian word for turquoise; means "victorious", and is derived from the word *feroz* or *firoz*, "victory, victorious, successful." (Laufer).

ferriferous. Containing iron.

ferri-turquoise. A variety of crystallized turquoise containing 5% Fe_2O_3. From Lynchberg, Va.

ferrolite. A name for a black iron slag, said to be satisfactory for fashioning into gemstones.

ferrous mineral. Any mineral having a considerable portion of iron in its composition.

ferruginous. Stained by or containing iron.

Fersman, Aleksandr Evgen'evich, (1883-1945). Educated Moscow University. Director of both Mineralogical Inst. and Geochemical Inst., U.S.S.R. Acad. of Science. Author of several mineralogical books and *Diamond* in German. Gem supervisor and editor of *The Treasure of U.S.S.R.*, (a catalogue of crown jewels, etc.).

F.G.A. Abbr. for Fellow of the Gemmological Assoc. A class of membership awarded to persons having passed the established examinations of that association.

fiber. In crystallography a hair-like or thread-like crystal. See **fibrous.**

fibrolite or **sillimanite.** A transparent to translucent pale violetish blue, greenish or brownish gem mineral, often a fibrous aggregate, used as an inferior substitute for jade. Other colors sometimes cut as a curio or for collectors. Ortho. Al_2SiO_5. H. 6-7, or 7.5 for crystals (Smith). S.G. 3.2; R.I. 1.66/1.68. Bi. 0.019; Disp. 0.015. Blue variety sometimes distinguished as fibrolite; fibrous varieties as sillimanite. See **"fibrolite cat's-eye."**

"fibrolite cat's-eye." Pale greenish fibrolite with fibrous inclusions which, when cut, produces a chatoyant effect but not a well defined cat's-eye.

fibrolithoid. A substitute for celluloid.

fibrous. Having a hair-like, thread-like, or fiber-like form as a fibrous crystal, or in a mineral, a structure composed of such crystals.

fibrous aggregate. A crystalline aggregate composed of closely packed **fibers.** Takes a good polish.

fibrous calcite. Translucent calcite composed of fibrous crystals, which like fibrous gypsum, with which it is often confused, causes a silky sheen. When cut cabochon produces a girasol or chatoyant effect, but not a true cat's-eye. Also like fibrous gypsum, it is called **satin spar** but less correctly.

fibrous gypsum. Satin spar. See **fibrous calcite.**

"figure stone." Agalmatolite.

Fijian soapstone. A soapstone from Fiji Islands.

Fiji Islands pearl. A good quality **fine pearl** from Fiji Islands, So. Pacific.

filter. Colored glass used in de-

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terminative gemology to filter out certain colors of the spectrum. See **color filter.**

filtered light. A term commonly used to refer to light which has passed through a colored glass (a filter) which absorbs the rays of some hues, allowing those of other hues to pass through.

fine-grained or **fine-granular mineral.** Consisting of small **crystalline grains.**

fine pearl. (1) A **true pearl** which possesses all the qualifications of a gemstone, such as oriental pearl. (2) A translation of **perle fine,** the French trade term for a natural pearl as distinguished from a cultured pearl.

finish. Term referring to certain details of fashioning, such as the placing and polishing of the girdle, culet, and facets. See **make.**

Finnish amber. Amber from the shores of Finland. See **Baltic amber.**

fiorite. A common opal occurring near hot springs. If with pearly luster is called pearl sinter. A **curio stone** only.

fire. (1) Flashes of the different spectrum colors seen in gemstones as the result of dispersion; the presence or the vividness of which depend upon **refractive index, fashioning, transparency** and color. (2) A term used by practical jewelers in U.S.A. for **play of color,** a gemologically incorrect usage.

"fire agate." (1) A glass imitation of **fire opal.** (2) Same as **goldstone.**

fired stones. Same as **heated stones.**

fired zircon. (1) Any zircon, the original natural color of which has been changed or entirely eliminated by heating. The induced colors often fade.

fire marble. A variety of marble emitting fire-like chatoyancy, which resembles opal matrix. See **lumachelle** or **lumachella.**

fire opal. Transparent to translucent orangy, yellow to red, sometimes brownish-orange or brownish-red opal, generally classed as precious, whether or not it displays a **play of color.** R.I. about 1.45. Principally from Mexico.

"fire opal glass." Translucent glass imitating fire opal. Usually S.G. 2.4 or more.

fire stone. Flint (quartz).

firmament stone. Precious opal.

fish belly jade. A descriptive term applied by the Chinese to a particular color grade of jade.

fish eye. (1) A little-used name for moonstone, also for opal with a girasol effect. (2) A popular trade term for any transparent faceted stone so cut that its center is lacking in brilliancy.

fish eye stone. Apophyllite, which is not a gem or ornamental stone.

fish pearl. Term rarely used to

describe the common imitation pearl made wholly or partly from fish scales.

fish silver. Same as **fish pearl.**

fissure. (1) Separation along cleavage plane which slightly penetrates the surface of a stone. (2) Geologically, a narrow opening formed by a parting of the earth's crust.

Five Great Gems. Called the *Maharatnani* by the Hindus, these consist of diamond, emerald, pearl, ruby and sapphire.

flag. In determinative gemology, same as **feather.**

flame opal. Opal in which red play of color occurs in more or less irregular streaks. See page 258.

Flame Queen Opal. A **Lightning Ridge opal** famous for its unique shape and its coloring which was dark red bronze with a green border. Last known owner, in Brisbane, paid $2,500 for it.

flame spinel. Intensely bright orange-red **rubicelle.**

flash fire opal. Same as **flash opal.**

flash opal. Opal in which the play of color is pronounced only in one direction.

flat. A term which used in connection with the price of pearls or other gemstones means price per grain or carat regardless of size.

flat double cabochon. Same as **lentil.**

flaw (in a gemstone). Inclusion of another substance, internal cleavage, or fracture or visible imperfect crystallization.

fleches d'amour. (Fr., arrows of love). (1) A name formerly used in Russia for amethyst containing brown needles of **goethite**; from Russia and North America (Bauer; also Schlossmacher). (2) The acicular crystals contained in any variety of **sagenitic quartz.** (3) A term used loosely and questionably as a synonym of **sagenitic quartz.** Same as cupid's darts.

"Flinders diamond." Incorrect name for a colorless topaz from Tasmania.

flint glass. A name used for any one of a group of glasses characterized by relatively high **dispersion,** usually the result of lead in the composition. May be light flint, medium flint, heavy silicate flint, extra-heavy silicate flint or other classifications. The last three classes mentioned, and others, are also called **lead glass.** H. 5; S.G. (usually) 3.1-4.2; R.I. (usually) 1.57-1.68, although either property may be higher or lower (Shipley). H.5; S.G. 2.9-5.0; R.I. 1.54-1.78 (Anderson). H. about 5; S.G. 3.15-4.15; R.I. 1.58-1.68 (Smith). See also **beryl glass; crown glass; borosilicate glass; strass; thallium glass.**

floating opal. Small pieces of gem

opal, placed in glycerine in transparent drop-shaped or spherical glass container, for use principally as a drop on a neck ornament.

float stone. A variety of opal that will float on water.

flohmig amber. Fatty amber, resembling goose fat; full of tiny bubbles, but not as opaque as **cloudy amber.**

Florentine Diamond. A famous yellow Indian diamond weighing 137.27 m.c. In the Hofburg in Vienna before World War II.

flower agate. (1) Any moss agate. (2) Translucent chalcedony from Oregon. Contains inclusions of minerals, sometimes red, brown, or yellow and green, arranged in flower-like forms, often of both red and green colors. (3) Term is often applied to any moss agate or mocha stone with flower-like markings.

flower stone. (1) Flower agate. (2) Incorrect term for beach pebbles of chalcedony.

fluor. Same as **fluorite.**

fluorescence. A variety of **luminescence.** The phenomenal property of changing the short invisible wave lengths into longer visible ones, and reflecting them as visible colors when exposed to the influence of X rays, cathode rays, ultra-violet rays, including those in sunlight, etc., possessed by ruby, kunzite, yellow-green synthetic spinel, some diamonds and opals, and many other substances. Colorless fluorite fluoresces violet; diamond various colors. See **phosporescence.**

fluorite. A transparent-to-translucent green, blue, violet, yellow, orange, red, brown or colorless ornamental mineral, occurring principally in pale to light tones. The compact, massive variety is especially adaptable for carving as figurines, lamp bases, snuff bottles, boxes, etc., and is rarely cut as gems. Iso. CaF_2; H. 4; S.G. 3.2; R.I. 1.43. From England, Arizona, and other sources.

fluoroscope. (1) In general a screen coated with fluorescent material to make possible the direct observation of the effect of X-rays, cathode rays, etc. (Shipley, Jr.) (2) In popular usage, the term is sometimes applied to a closed chamber in which specimens, such as pearls, may be exposed to X-rays, cathode rays or ultraviolet light, and observed for the presence of **flourescence.** See **pearl fluoroscope.**

fluorspar. Same as **fluorite.**

flux. To melt; to fuse. As a noun, a fluid or substance which may be used to fuse some other material, as in making glass imitations.

foamy amber. Frothy amber. Almost opaque chalky white amber. Will not take a polish.

foil back. Trade name for an **assembled stone.** (1) *Genuine foil*

back: a genuine gemstone backed with colored or silver foil to improve its color or brilliancy or both. (2) *False foil back:* one in which a stone of a different species is backed with a color to imitate a more desirable one. (3) *Imitation foil back:* one in which glass is substituted for a stone. See also **lacquer back.**

foiling. A thin leaf of metal silvered and burnished and afterwards coated with transparent colors; employed to give color or brilliancy to pastes and inferior stones. See **foil back.**

folia. Thin flakes or leaves; lamellae.

foliated. Compesed of, or easily splitting into, thin plates or flakes.

"fool's gold." A popular name for **pyrite.**

formation striae or **formation striations.** Color bands in synthetic corundum or spinel, which, since they are always distinctive and almost always curved, differ from the straight color zones in genuine.

formula, chemical. See **chemical formula.**

fortification agate. Agate with parallel zigzag lines which are heavier than in **topographic agate.**

Foshag, William Frederick (1894- —). Head Curator of Geology U. S. National Museum (Smithsonian Institution). 1919 —. Author of Part 2 *Minerals from Earth and Sky; Gems and Gem Material,* Washington, 1934; numerous mineralogical papers and reports.

fossil. Originally, any rock, mineral or other objects dug out of the earth. Now, any remains, impression, or trace, of an animal or plant of past geological ages, which has been preserved in a stratified deposit or a cave. The term frequently further restricted to remains of a stony nature, as those which have undergone more or less petrifaction. See also **petrifaction.**

fossil coral. Same as **beekite.**

fossiliferous. Containing fossils, remains of plants or animals.

fossilized. Preserved by burial in rock or earthy deposits.

fossilized wood. Same as **petrified wood.**

fossil resin. Geologically preserved resin or gum of long-buried plant life. All of the harder, tougher varieties have been questionably called amber, including **ajkaite, beckerite, chemawinite, delatynite, glessite, krantzite, retinite, and stantienite.** See **true amber, dammar.**

fossil turquoise. Same as **odontolite.**

foundation stones. The wall of the New Jerusalem rested on twelve foundation stones as described in Apocalypse (Revelation XXI). There is a close connection between these and the stones of

the High Priest's breastplate. See **birthstones.**

fowlerite. Variety of rhodonite from Sussex Co., New Jersey; cut and polished locally as a gemstone.

Fr. Abbr. used in this book for French.

fracture. Term used to describe the chipping or breaking of a stone in a direction other than that of cleavage plane or across cleavage planes. In mineralogy, fracture is classified as **conchoidal fracture, splintery fracture,** etc. See also **cleavage.**

frangible. Capable of being broken; breakable; brittle; fragile.

Fraunhofer lines. A group of dark lines (absorption bands) in the solar spectrum. The position of certain Fraunhofer lines, denoted by letters, is useful in **spectroscopy.** See **absorption.**

Frederician cut. A style of cabochon cut with one or two rows of facets around the girdle, frequently applied to chrysoprase.

"Frémy rubies." Synthetic rubies once made by the French chemist, Frémy.

"French color" rubies. Rubies of light color. See also **Ceylon ruby.**

French cut. A variety of mixed cut. Square in shape with a square table placed at a 45° angle to the edges of the stone. Also on the crown 24 smaller facets are usually placed, consisting of 8 star facets, 4 bezel facets and 12 girdle facets. The pavilion is either a step cut or a variation of the brilliant cut. See page 258.

French stones. A deceptive term for glass imitation stones.

fresh-water pearls. Pearls from the **Unio.**

friable. Readily broken into grains; crumbling easily.

"friable amber." Gedanite.

frictional electricity. Electricity developed by rubbing (with a cloth) amber, tourmaline, topaz, diamond, and some plastic imitations.

front (of a gemstone). The crown.

frost agate. Grey chalcedony with white markings which resemble frost or snow. See **frost stone.**

frost stone. A local trade name for chalcedony found near Barstow, Calif., in 1912, which contained white inclusion thought to be opal.

frothy amber. Same as **foamy amber.**

fruit flesh jade. A descriptive term applied by the Chinese to a particular color grade of jade.

FTC. Abbr. for **Federal Trade Commission.**

fuchsite. A green mica (chrome mica) which, as inclusions, colors verdite and aventurine quartz. See **muscovite.**

"full crystal." See **"English crystal."**

full cut brilliant. The term correctly used for a brilliant cut diamond or colored stone with the usual total of 58 facets, which total consists of 32 facets and a **table** above the **girdle** and 24 facets and a **culet** below. On colored stones the **girdle** is usually polished, but not on diamonds. See also **standard brilliant.**

furrowed. Having deep grooves or **striations.**

fused beryl. Same as **beryl glass.**

fused quartz. See **quartz glass.**

fused stone. (1) Any gem substitute produced by means of fusion; especially synthetic stone or glass. (2) An assembled stone such as **soldered emerald.**

fusible. Capable of being fused or melted by the blowpipe.

futuran. Trade-marked name for a phenol aldehyde plastic; used as imitation amber.

G

G. Abbr. sometimes used for **specific gravity.**

Gablonz jewelry. Glass imitation jewelry made in Gablonz, Czechoslovakia.

Gagat (German). Jet.

gahnite. Semitransparent-to-opaque, yellowish, greenish to black **spinel** in which zinc has replaced magnesium. Rarely, if ever, cut as gem. S.G. and R.I. higher than **gahnospinel.**

gahnospinel. Zinc-rich, blue-green, green or light violet spinel with greater S.G. (as high as 3.98) and higher R.I. (as high as 1.78) than other (magnesium) spinel fashioned as gems.

gair. Burmese term for large opaque rubies.

galalith. A **casein** plastic of various colors, used in imitations of amber, coral, jet, ivory, and tortoise shell.

Gambier pearl. Pearl from Gambier in Tuamotu Archipelago, South Pacific. Of unusual and almost chalky whiteness.

gamma zircon. That type of zircon which possesses lower properties than the **alpha** and **beta zircon.** Amorphous or nearly so, due to deteriorated crystal structure. S.G. 4.0; R.I. (single) 1.79-1.84. Bi. approximately zero. Rarely fashioned as a gem. See **zircon.**

gangue (gang or ganj.) The minerals associated with metallic ores in a deposit. Usually worthless although some minerals such as apatite occur. See **veinstone.**

garden (in emerald). See **jardin.**

Gargun (German). Same as **jargoon.**

garnet. (1) A name which covers a number of closely related minerals. Several chemically similar elements freely replace one another in the garnet group. As a result, the properties of the group are variable, and there are a number of garnet gems, quite different in appearance. (Kraus and Slawson). The **isomorphous replacement** of one element, such as iron by another (such as magnesium or calcium) results in terms such as *iron garnet, magnesium garnet* and others, and also in variations in properties such as the hardness of almandite, 7.5, and that of demantoid 6.5, and the unusually high dispersion in the latter.

Classified gemologically as different species, the reddish to purplish iron aluminum garnet, **almandite,** and the reddish magnesium aluminum garnet **pyrope** are not often differentiated by the jewelry trade and are commonly known merely as garnet, while others such as the green **(demantoid)** variety of calcium-iron species **(andradite)** are known by variety names. See **demantoid; grossularite; hessonite; rhodolite; spessartite; topazolite; uvarovite; isomorphous replacement.** (2) As an adjective, a color designation meaning dark red as in the term *garnet glass.*

garnet blende. Same as **sphalerite.**

garnet doublet. (1) A term correctly applied to the most common doublet, that with a very thin top of red garnet, regardless of the color of the doublet. (2) The term is used by the trade in U.S.A. for any doublet of dark red color regardless of whether any portion of it is garnet. This is more correctly called a *garnet-colored doublet.*

"garnet jade." A name applied to the several varieties of so called **Transvaal jade,** and also to the translucent to semitranslucent light green **grossularite** garnet, sometimes almost emerald green in hue and closely approaching fine jadeite in appearance, a small deposit of which was found in Oregon about 1930.

garnetoid. A substance (silicate, phosphate, etc.) which has a structure similar to garnet, including hydrogarnet, grossularoid, and others (Spencer).

garnet shell. See **shell** (cut).

garnierite (gar′nee-er-ite). A mineral resembling **steatite** (Eppler) or **serpentine** (Dana). Pale apple to emerald green, apparently amorphous. H. 2-3; S.G. 2.3-2.8; R.I. 1.59 (Kraus and Hunt).

gas bubbles. Bubbles seen as inclusions in glass, synthetic corundum and synthetic spinel, which reveal their difference from genuine corundum, spinel and most other genuine gems, in which inclusions are more angular.

gas inclosure. A gas **inclusion** in a stone, such as can be found in all **synthetic corundum.**

gastropod. A division of **univalve** molluscs which includes land and sea snails, the **abalone,** etc.

gauge. *In general,* a measure of dimensions, distance or capacity or a device for measuring, registering or marking. *In the gem trade,* the word usually refers to a device for measuring diameter, thickness, height and other dimensions of a gemstone and is then more accurately called a **micrometer.** See also **Leveridge, Moe gauge; caliper.**

gaungsa. Burmese term applied to pale, inferior rubies of mixed sizes up to six carats. (Gems &

Gemology).

gawdone. Burmese term for star sapphire.

gedanite (jed'a-nite). A brittle fossil resin sometimes classed as amber, but not by those who specify the presence of succinic acid as a requirement, although Schlossmacher mentions a trace of it in gedanite. Lacks toughness and ability to take as high polish as succinite. Rarely used as gem except for beads. H. 1.5-2; S.G. 1.06-1.07. See **fossil resin; Baltic amber.**

gem. (1) A cut and polished stone which possesses the durability and beauty necessary for use in jewelry; or a **fine pearl.** (2) A term often applied to an especially fine specimen, as a *gem emerald.* (3) As an adjective, a prefix, as in **gem crystal, gem quality, gem material,** etc. (4) As a verb, to decorate with gems (Standard).

gem collections. See **museum gem collections.**

gem collector. See **collectors.**

gem color. The most desirable color for a stone of its particular variety. Perfection color.

gem crystal. A crystal from which a gem can be cut.

gem gravels. Gem-bearing gravels of present or former river or lake beds.

gem jade. Same as **jewel jade, emerald jade.**

gemmary. (1) (Rare) The science of gems (Standard). (2) A house or receptacle for gems or jewels; also gems collectively. (3) An engraver of gems (Standard)

gem material. A term used particularly by Kraus and Slawson to mean (a) any synthetic or other important substitute for a **gemstone,** or (b) any rough mineral from which a gemstone can be fashioned, such as a piece of uncut jade.

gem mineral. Any mineral species which yields either a **gem variety** or individual specimens which meet the qualifications of a **gem.**

Gemmological Association of Great Britain. Established 1933 as the educational branch of the National Association of Goldsmiths. Actually the second body to be established for the furtherance of the study of gems. Since its establishment, th Gemmological Association has conducted the gemmological courses previously offered through the Nat'l. Assoc. of Goldsmiths.

gemmologist. (The English spelling ing of **gemologist**). One who has mastered **gemmology.**

Gemmologist, The. A monthly periodical published in England.

gemmology (jem-ol'oe-ji). The spelling of **gemology** as used in Great Britain where it was formed from the Latin *gemma* (a gem), and the suffix *-ology* de-

rived from the Greek meaning a science. Introduced previous to the time of the establishment of the gemological courses in England in 1910, probably about 1900. See **gemology; gemmary.**

Gem of the Jungle Sapphire. Unusually large blue sapphire found just below the grass, in Burma, in 1929. Weighed 958 carats. Cut into nine gems.

Gemolite (trade-mark). An illuminator designed especially to illuminate inclusions (in gemstones) more effectively. Employs a monocular microscope.

Gemological Institute of America (United States and Canada). Established 1931. The first national body organized exclusively for the furtherance of gemological research and the study of gems. A non-profit endowed institution supplying books, educational displays and both mail and verbal instruction in **gemology.** International Headquarters. 541 South Alexandria, Los Angeles 5, California. Eastern Headquarters, 5 East 47th Street, New York City 17. See **Gemologist, Graduate Gemologist.**

gemological laboratory. Laboratory equipped with instruments which are especially designed for testing fashioned stones, and especially **mounted stones.** See **jeweler's gemological laboratory, national gemological laboratories.**

gemological microscope. See **microscope.**

gemological polariscope. See **polariscope; Shipley polariscope.**

gemologist. A word which seems to have been first used by the Gemological Institute of America in 1930. Then used in England, spelled **gemmologist,** in 1931 as the name of a periodical but spelled with two *m's*. Subsequently used in other languages. In U.S.A. it was, until 1948, confined almost entirely (1) to one who had passed the examinations of the **American Gem Society** and been awarded its title of **Certified Gemologist** or (2) to mineralogists and other educators who had specialized in the scientific study of fashioned gemstones. Since July, 1948, the title has been extended (3) to one who holds a diploma of completion of the correspondence courses of the **Gemological Institute of America** or (4) to one who is a **Graduate Gemologist.** An amateur mineralogist, gem collector or jeweler who has not passed established examinations in **gemology** is not recognized as a gemologist, and one using the name is considered to be unethical by the jewelry trade. Spanish *gemologista;* French, *gemmologiste;* Portuguese, *gemologista;* Italian, *gemmologista;* German, *Edelsteinkundiger*. See also *gemology, gemmology, gemmologist.*

gemology (Fr. *gemmologie;* German, *Edelsteinkunde,* Ital., *gemmologia;*

Portuguese, *gemologia;* Span., *gemologia;* Swiss, *gemologie*). The science of minerals and other natural substances possessing the necessary beauty and durability for wear as ornamental objects, substances used to imitate them, and the history of their source, production, fashioning and use. Gemology as taught in North America also includes the study of precious metals. The word was either coined in U.S.A. prior to 1910 or adapted from the British word **gemmology** by the usual American practice of eliminating letters which are useless or tend to obscure the meaning. See **gemmology; gemologist; decriptive gemology; determinative gemology; historical gemology; Gemological Institute of America.**

gem pearl. A term often used for those better qualities of **fine pearls**, which possess a rosé or other particularly desirable orient. Does not include **white pearl.** See page 258.

gem-peg. A rest for the gem-stick, in gem cutting (Standard).

gem quality. Possessing the qualifications of a gem.

Gems & Gemology. A scientific periodical published four times each year by **Gemological Institute of America.** Established 1933.

gem species. A gem-bearing mineral **species.**

gem-stick. A stick on which a gem is cemented while being cut (Standard).

gemstone. (1) A term which includes **pearl, amber, coral, jet,** or any stone of any variety of a **gem mineral,** which is of sufficient beauty and durability for use as a personal ornament. Formerly hyphenated, as gem-stone or used as two words, gem stone. See **decorative stone, ornamental stone, curio stone.** Also **gem material.** (2) The term recommended by B.I.B.O.A. to replace the term **semiprecious stones.**

gem-testing laboratory. See **gemological laboratory.**

gem variety. That variety of a mineral species which yields gemstones.

genera. Plural of **genus.**

genesis (gemological). Origin or formation of a natural gem mineral.

"Geneva ruby." (1) An obsolete trade name given to the earliest **reconstructed ruby,** probably first made in 1882 in a small Swiss town near Geneva. (2) The name deceivingly applied to the first rubies made synthetically in 1891.

genuine doublet. See **doublet.**

genuine pearl. A **natural pearl** in contrast to a **cultured pearl.**

genuine triplet. See **triplet.**

genus (jee'nus or jen'us). A group of two or more species of animals or plants. Plural *genera* or, rarely, *genuses*.

geo-chemistry. The science of the chemistry which treats of the materials of the earth.

geode. Cavities in clay or other formations which have been incrusted with a wall of quartz or other mineral and which (later) separate as a hollow mass, the interior walls of which are usually studded with crystals. See **amygdule.**

geology. The science which treats of the history of the earth.

"German diamond." Incorrect term for rock crystal.

"German gold." Amber (S. H. Ball).

German jet. Jet from Swabian Alps and Saxony; of inferior quality.

"German lapis." Incorrect term; same as **"Swiss lapis."** Originally jasper from Nunkirchen, Germany, dyed blue.

German silver or **nickel silver.** An alloy of copper, nickel, zinc, and sometimes other metals, but no silver, in which gemstones are but rarely set.

geyserite or **siliceous sinter.** A porous variety of common opal deposited by geysers.

ghost crystal. Same as **phantoms.**

G.I.A. Gemological Institute of America.

G.I.A. Pearl Illuminator. A microscope accessory designed to concentrate an intense light through a pearl which is observed under low magnification. Of value as a rapid means of detecting some cultured pearls, but not an infallible method.

G.I.A. Registered Loupe. An **aplanachromatic** lens mounted in a hand or eye loupe. The latter mounted in specially shaped duralumin cup to compensate for the extra weight of lens system. Laboratory-tested to insure absence of both chromatic and spherical aberration.

Gibraltar stone. A light colored onyx marble found at Gibraltar and elsewhere. See **"Mexican onyx."**

gibsonite. Fibrous pink **thomsonite** (English), from Renfrewshire and Dumbartonshire, Scotland.

gigaku. Japanese name for jade or for precious stones in general.

gilsonite. Same as **uintahite.**

giogetto. Italian name for black coral.

girasol (jir'a-sol). (1) A name which has been applied to (a) moonstone, (b) fire opal, (c) an almost transparent opal with a bluish floating light; see **girasol opal;** and (d) to many other stones (Bauer-Spencer). (2) In North American gemology and in this glossary an adjective, used as in **girasol sapphire,** to describe any gem variety which

exhibits a billowy, gleaming, round, or elongated area of light which floats (i.e. moves about as the stone is turned or as the light source is moved). When the elongated light forms an uneven or indistinct band the stone is said to have a **chatoyant effect.** Only when the band is sharp and distinct is it a **cat's-eye.** (3) A trade name for glass spheres used in manufacture of **imitation pearls.**

girasol chrysoberyl. Cymophane with girasol effect but lacking true **chatoyancy.**

girasol opal. A term which has been been used for (1) an opal with blue to white body color and a red play of color as well; (2) the varieties of opal described under **girasol.**

"girasol pearl." An imitation pearl with a glass base. See **girasol** (3).

girasol sapphire. Sapphire with a floating cloud of light or with a wide indistinct light band. Often incorrectly called sapphire **cat's-eye.**

girdle. The outer edge or periphery of a fashioned stone; that portion which is usually grasped by the setting or mounting; the dividing line between the crown and pavilion. In most diamonds it is left unpolished. On emerald cut diamonds, on almost all **colored stones** and on some brilliant cut diamonds, **polished girdles** are placed. On the latter these often consist of a series of more or less flat polished surfaces which are more or less accurately termed **girdle facets.**

girdle facets. (1) In a brilliant-cut stone, (a) in traditional trade usage, the same as **break facets,** or (b) a term more or less correctly applied to the polished or partly polished flat surfaces which often are placed on a polished **girdle.** (2) In other styles of cutting, especially emerald cut, the girdle is usually polished, producing well-defined rectangles or other parallelograms in contrast to the outline of those on brilliants, which are usually uneven and unsymmetrical in comparison.

glass. An amorphous substance, ordinarily consisting of a mixture of silicates. Glass is usually manufactured by fusing silica, an alkali, and lead oxide or another metallic oxide. The better glass imitation stones contain a large proportion of lead and may contain oxides of rarer elements, such as thallium. Some glass imitations are made according to very complex formulas. The properties of glass used in **imitations** vary widely. H. 5-6½; S.G. 2.0-5.0; R.I. 1.44-1.69 (rarely 1.77). Usually contains air bubbles and often **whorls.** See also **beryl glass; borosilicate glass; flint glass; paste; strass;**

thallium glass.

glass agate. A name applied to transparent to semitransparent, slightly gray chalcedony; also, even less correctly to obsidian.

glass lava. An undesirable name for obsidian.

glass meteorite. An undesirable name for moldavite.

glass opal. Hyalite.

glass quartz. A little-used name for rock crystal.

glass schorl. Axinite.

glass stone. A glass imitation stone. Also a term applied to axinite.

glassy lustre. Vitreous lustre. See **vitreous.**

glazing. An operation in the fashioning of gemstones (other than diamond), between **grinding** and **polishing.** Also called **sanding.**

glessite. A **fossil resin.**

glimmering. Affording imperfect reflection, apparently from points on the surface. A form of **luster.**

glistening. Affording a general reflection from the surface.

globular. Having spherical or rounded form.

glow stone. Chalcedony.

Gnaga Boh Ruby (Dragon Lord Ruby). A fine Burmese ruby which weighed 44 carats, rough, and when fashioned, 20 carats.

gnat stone. Dendritic quartz (moss agate or mocha stone) with small black inclusions.

gneiss (nice). A crystalline rock of metamorphic origin with its mineral content bedded so that the rock appears in crude, irregular layers or laminae; similar to granite in composition.

goethite or **göthite.** A yellowish, reddish or brownish mineral (often blood red by transmitted light), thin needles of which sometimes occur as prominent inclusions in sagenitic quartz; also, according to G. F. H. Smith, as inclusions in sunstone. FeO(OH); Ortho. H. 5-5.5; S.G. 4.3; R.I. 2.26/2.40. Named for the poet Goethe, and similarly pronounced.

gold. A metallic element and precious metal. See **gold jewelry.**

golden beryl. Yellow to greenish beryl. See **heliodor.**

golden sapphire. Yellow to greenish yellow sapphire.

golden stone. Greenish-yellow peridot.

gold glass. Term sometimes applied to "goldstone."

gold jewelry. Term used in U.S.A. for jewelry made wholly or principally of **solid gold;** also designates gold-filled or gold-plated jewelry.

gold matrix. Gold in a matrix of milky quartz. Same as **gold quartz.**

gold opal. Opal which exhibits only an over-all color of golden yellow.

gold quartz. Milky quartz containing inclusions of gold. Same as **gold matrix.**

"gold sapphire." Lapis lazuli containing flecks of pyrite. See also **golden sapphire.**

goldstone. A translucent or semitranslucent, usually brown, glass imitation in which copper filings have been included. Same as **aventurine glass.**

"gold topaz." (1) Heat treated topaz-quartz. (2) Naturally colored citrine.

goniometer. An instrument used to measure angles between facets of a gem or faces of a crystal. The *contact goniometer* is a physical instrument incorporating a protractor; the *reflection* or *reflecting goniometer* uses light reflected in a fixed system, the specimen being turned on a calibrated table. Probably the most valuable to the gemologist is the *horizontal single-circle goniometer* which is used to measure the index of refraction by the method of **minimum deviation.** (Shipley, Jr.).

goodletite. A name for Burmese marble forming matrix of rubies.

gooseberry stone. A name for **grossularite,** and more specifically for its yellow-green to yellowish green varieties.

goshenite (goe′shen-ite). Colorless beryl.

gota de aceite (Spanish). The best quality of emerald.

göthite. Same as **goethite.**

goutte de eau. Colorless topaz.

goutte de sang. Blood-red spinel.

goutte de suif. Same as **tallow top.**

gr. Abbr. for **grain** (weight).

graduated cut. Step cut.

Graduate Gemologist. A title authoratively used by one who holds the diploma in the *theory and practice* of gemology awarded by the **Gemological Institute of America** upon completion of both its correspondence and residence courses. See **Gemologist.**

grain. (1) A unit of weight; one-quarter of a metric carat or 0.0500 metric gram; commonly used for pearls, sometimes for diamonds; rarely for other gemstones. (2) A popular trade term for cleavage direction in a gem mineral or gemstone. (3) In mineralogy, a minute crystalline particle. See **crystalline grains.**

granada (Port.). Garnet.

granat (German). Garnet.

Grande Pintadine. Same as *Meleagrina margaritifera.* (Boutan). See **Meleagrina pearl.**

grandite. A name suggested for garnets, the chemical composition of which is between grossularite and andradite.

granite. A granular igneous rock containing principally quartz and feldspar.

granitic. Granite-like, or composed in part of granite.

granular. Composed of or resembling **crystalline grains.**

graphic granite. A variety of granite containing quartz crystals arranged so that their cross sections resemble cuneiform and Hebrew writings.

grating. A system of close equidistant and parallel lines or bars, especially lines ruled on a polished surface, used for producing spectra by diffraction. Gratings have been made with over 40,000 such lines to the inch, but those with a somewhat smaller number give the best definition. Of great assistance in spectroscopic work.

grave jade. Same as **tomb jade.**

gray-blue, gray-green, gray-purple, gray-violet. In **color nomenclature system** of North American gemology, colors which, respectively, are midway between **neutral gray** and blue, green, violet, purple.

grayish blue, grayish green, grayish purple, grayish violet. In North American gemology, colors which are, respectively, more grayish than vivid blue, green, purple or violet, but not as grayish as **gray-blue, gray-green, gray purple, gray-violet.**

gray sapphire. The gray variety of sapphire popular as a gem only if asteriated.

grease stone. A name for **steatite.**

greasy luster. Luster resembling that of oily glass. Produced by reflection from a non-plane surface. Seen on polished jade.

Great Mogul. Title of the native sovereigns (1526-1857) of the empire founded in India by the Mongols in the 16th Century. Their chief seat was at Delhi. The Moguls had vast stores of gems, especially diamonds.

Great Mogul Diamond. Name given by **Tavernier** to a 280-carat Indian diamond, which may have disappeared, or more likely was reduced in weight, and later known as either the **Orloff** or the **Kohinoor.**

Great Southern Cross. Group of nine Australian pearls forming a cross and said to have been found naturally in this exact form, but claim later discredited. Said once to have sold for $135,000, and to have been in possession of the Vatican. Same as **Southern Cross Pearl.**

green beryl. A term applied to the lighter green varieties of beryl as distinguished from the full green **emerald** and the light blue-green **aquamarine.**

green-blue. In **color nomenclature system** of North American gemology, the **hue** midway between green and blue. Same as **blue-green.**

green chalcedony. Usually some cryptocrystalline variety of quartz stained green. Also may be chalcedony of natural green color.

"green-ear." A name which has been applied to **fresh-water pearl.**

green garnet. The demantoid variety of andradite garnet. The

green grossularite garnet is usually known as gooseberry garnet. Also a misnomer for **enstatite.**

greenish blue. In North American gemology, the hue midway between blue and **green-blue.**

greenish gray. In North American gemology, a color midway between green-gray and **neutral gray.**

greenish yellow. In North American gemology, the hue midway between yellow and **green-yellow,** therefore more yellow than green.

green-gray. In color nomenclature system of North American gemology, a color midway between vivid green and **neutral gray.**

green-john. Green fluorite.

"green onyx." In U. S. A. jewelry trade, a widely accepted, but otherwise incorrect term for artificially colored green **chalcedony.** Not as light green as **chrysoprase.** See **onyx.**

greenovite. A reddish or pinkish variety of sphene.

"green quartz." Name sometimes used for green transparent fluorite.

green starstone. Chlorastrolite.

greenstone. (1) Correct name for **nephrite.** (2) A little used misnomer for **chiastolite** or for **fuchsite.**

Green Vault. The Grünes Gewölbes in Dresden, Germany, where are exhibited the gem collections of Augustus II, a former Elector of Saxony and King of Poland.

green-yellow. In **color nomenclature system** of North American gemology, the hue midway between green and yellow. Same as **yellow-green.**

grenat (Fr.). Garnet.

grenat noble (Fr.). Almandine.

grenat Siriam (French, meaning *Siriam garnet*). According to Kunz, a trade name for any red garnet with tinge of violet.

grey, greyish. Alternate spelling of gray, grayish.

grinding. The preliminary shaping of a rough **colored stone;** followed by polishing. Grinding is done on carborundum wheels or on metal laps, and diamond powder or carborundum is usually used, depending on hardness of stone.

griqualandite. Mineralogical name for the yellow silicified crocidolite which appears in parallel layers in tiger eye.

Grodzinski, Paul. Born 2nd February, 1902, Dipl. Ing. Technische Hochschule, Dresden, A. M. I. Mech. E., M.A.S.T.E., Head, Industrial Diamond Information Bureau, Diamond Research Department, Industrial Distributors (Sales) Ltd., London, E. C. 1; Technical Editor, *'Industrial Diamond Review'*; Author (1) *Getriebelehre* with H. Polster, Berlin, 1933, 2 Vols., (V. 2 by Grodzinski only). (2) *Diamantwerkzeuge,* Berlin, 1936. (3) *Diamond and Gem Stone Industrial Production,* London, 1942 (2nd revised edition in preparation, ap-

pearing in *Ind. Diamond Rev.* beginning with April, 1948, as a serial). (4) *Diamond Tools*, New York and London, 1944. (5) *A Practical Theory of Mechanisms*, Emmott & Co., Manchester, 1947.

grossular. A British term for grossularite garnet.

grossularite (gros'u-lar-ite). A white, colorless, rose, yellow to orange, brownish or pale to almost emerald green mineral species of the garnet group. A calcium aluminum garnet of which the transparent to semitranslucent varieties known as **hessonite.** **"Garnet jade"** and "white jade" only are of gemological importance. Iso. $Ca_3Al_2(SiO_4)_3$. H. 6.5-7.5; S.G. 3.4-3.8; R.I. 1.74-1.76. Disp. 0.028. Hessonite from Ceylon, Italy, Calif. and other sources. Green grossularite from Transvaal and Oregon.

Groth, Paul H. R. Von. (1843-1927). One of the world's outstanding mineralogists, professor at Strassburg and Munich, founder and editor of a mineralogical periodical and author of the standard books on chemical crystallography and minor books on gems.

grothite. Sphene.

Grubstake Opal. A fine example of **precious opal** pseudomorphous after wood. A 4½x¾-in. polished slab. From Virgin Valley, Nevada. Pawned by prospector who failed to reclaim it. Now in Amer. Mus. of Nat. History, N. Y. (Whitlock)

Grünes Gewölbes. Same as **Green Vault**.

"Guadalcanal cat's-eye." Same as **"shell cat's-eye."**

guanin. The constituent of essence d'orient which causes its iridescence.

guarnaccine garnet. A trade term for yellowish red garnet. Same as **vermeille garnet** (Kunz).

Gübelin, Dr. Edward. Degree conferred by Univ. of Zurich. Certified Gemologist, Gemological Institute of America, 1939. First Research Member, Gemolog. Institute, 1943. Founder Gemological Institute of Switzerland. Author of many reports on original gemological research in *Gems & Gemology*, 1940- .

Guilds. The periodical of the **American Gem Society.**

gum anime. A recent fossil resin, often containing insects; sometimes mistaken for amber.

gun-metal pearl. (1) The variety of so-called **black pearl**; the color and luster of which resembles polished gun metal. (2) A gun-metal imitation of such a **pearl.** A misnomer.

gypsite. Same as gypsum.

gypsum (jip'sum'). An ornamental, decorative and curio mineral, the light colored varieties of which are easily dyed. A white opaque variety is **alabaster;** the fibrous white variety is **satin spar.** Mono. $CaSO_4 2H_2O$; S.G. 2.2-2.4; R.I. 1.52/1.53. Bi. 0.010. Sources widely distributed.

gyu. Tibetan name for **turquoise.**

H

H. (1) Abbreviation for the degree of hardness of a substance. (2) The symbol, in a chemical formula, for the element hydrogen.

habit. Crystal form or forms in which a mineral usually is found.

hackle back pearl. A fresh-water pearl of the Mississippi Valley, found, rarely, in the mussel *Symphynota complanata*, popularly known as the hackle back, hatchet back, or heel splitter.

hackly fracture. Breaking with a rough surface having many sharp points, like most metals.

haematite. Same as **hematite.**

hair (rare). Trade term for hairlike fractures or needlelike inclusions in gemstones.

hair amethyst. Sagenitic amethyst. See **amethyst, sagenitic quartz.**

hair crystal. Same as **hair stone.**

hair stone. Any variety of crystalline quartz containing fibrous or thread like inclusions of other minerals. See **Thetis hair stone; Venus hair stone.**

Haiti pearl. Pearl mentioned by Cattelle in 1906 as being from south and west coasts of Haiti, and of good quality.

hakik. General name for agate in India.

half-bored pearls. A pearl drilled partly through for use in earrings, scarf pins, etc.

"half carnelian." Yellow carnelian.

half facets. Same as **break facets, cross facets.** See **girdle facets.**

half moon. A style of cutting which produces a stone shaped as a half circle.

half opal. Semiopal.

Halford-Watkins, Lt. Colonel, J. F. V. D. (— 1938). Formerly Deputy Agent of the Burma Ruby Mines, and later a Director of Ruby Mines, Ltd., Mogok. Authority on rubies and sapphires. Private gemological laboratory 1925-38; Member Educational Board, Gemological Institute of America 1932-38. Left uncompleted book on gemology.

half pearl. (1) Half of a round pearl; (2) rarely used to mean a cultured blister pearl.

Haliotidae. A family of gastropods, with deep oval shell with a row of perforations and a flat lip; ormers or ear-shells.

Haliotis. A genus typical of haliotidae; an ear shell.

halo. See **pleochroic halo.**

halves facet. Same as **half facet.**

hambergite. Grayish white or colorless mineral. Colorless variety from Madagascar, cut as gems for collectors only. Looks like rock crystal. Ortho. $Be_2(OH)BO_3$; H. 7.5; S.G. 2.35; R.I. 1.55/1.62; Bi. .072.

Hamlin, Augustus Choate, (1829-1905). Author of *Leisure Hours Among the Gems* (1884); *Treatise on the Tourmaline* (1873); *The History of Mount Mica* (1895).

hammered pearl. Pearl with tiny indentations in its surface, which resemble the hammer marks on hammered silver. See also **hammer pearl.**

hammer pearl. Pearl shaped like head of a hammer. See also **hammered pearl.**

Han or Han jade. Same as **Han Yü.**

hand loupe. See **loupe.**

Han Yü. Chinese name for (1) jade of the time of the Han dynasty. (2) In trade, **tomb jade** or any jade which resembles it in color and texture even though it be artificially treated to accomplish that resemblance.

hard clam pearls. From hard clam or quahog *(Venus mercenaria)*, from Atlantic Coast. U.S.A.

hard mass (or masse). A trade term used originally for a special glass of an unusual hardness of 6 or more. Now misused to mean any glass, especially green glass artificially flawed to imitate emerald; and sometimes to mean synthetic sapphire or spinel. See page 259.

hardness. In gemology, the resistance of a substance to being scratched, a property by which various gemstones and imitations may be identified. See **Mohs scale.**

hardness gauge. Same as **hardness points.**

hardness pencils. Same as **hardness points.**

hardness plates. A series of small pieces of minerals of differing hardness, polished flat, and set side by side in cement, for testing hardness of another mineral which is drawn across one after another piece, beginning with the hardest, until it scratches one.

hardness points. Small pieces of minerals of differing hardness, with one end pointed and affixed to small handles of wood, metal or plastic, to be held in hand and used for testing hardness of another mineral, by ascertaining which points will scratch it. Minerals of hardness 10 to 6 are usually used as points for testing gemstones.

hardness scale. Same as **hardness table.** See **Mohs scale.**

hardness table. Any listing of substances as to their comparative **hardness.**

hardness wheel. A hand instrument in which **hardness points** are set as equidistant spokes of a rimless wheel, permitting more rapid selection of points in testing

hardness.

harlequin opal. Opal with close-set, angular (mosaic-like) patches of color, of similar size. See **cat's-eye opal**; **pin fire opal.**

Harz cat's-eye. Name sometimes used to mean any quartz cat's-eye, but more especially a variety from Harz Mountains (Germany). Is usually inferior to the better qualities of Bavarian and Ceylonese quartz cat's-eye.

hatchet back pearl. Same as **hackle back pearl.**

hatchet stone. Nephrite.

haüyne or **haüynite** (ha'win or ha'-win-ite). A constituent of lapis lazuli. Hardness 6; translucent to opaque; bright blue to green-blue. See **lapis lazuli.**

"Hawaiian diamonds." Rock crystal.

"Hawaiian golden yellow topaz." Clear plagioclase feldspar. (S. H. Ball)

Hawaiian peridot. Peridot from near Hilo, Hawaii, in cut stones, sizes averaging about one-half carat. Same as hawaiite.

hawaiite. *Gemological:* A name given to a pale green variety of **peridot** from Hawaiian Island lavas (English). *Geological:* A variety of basalt.

hawk's-eye. Also spelled *hawk-eye.* Transparent colorless quartz containing closely packed, parallel fibres of **crocidolite** which impart to it a blue color. In form and sheen it resembles **tiger-eye** to which it alters geologically. Differs from **sapphire quartz,** in which fibres are not parallel.

haystack or **haystack pearl.** Term applied by American river fishermen to high-domed button pearls.

He. Abbr. for the element helium.

healed pearls. Those in which surface or subsurface cracks have been repaired by experts.

heart-shaped brilliant. A heart-shaped variation of the **pendeloque;** usually with a large table and a shallow crown.

heated stone. A stone that has been artificially heated to the proper temperature with the intention of improving or completely altering its color. The induced color is permanent in varieties such as **hyacinth, burnt amethyst,** etc.; less permanent in **blue zircon.** See also **stained stone.**

heat treated stone. Same as **heated stone.**

heaven stone. Benitoite.

heavy liquid. Liquid having high S.G., such as methylene iodide, in which different species either float if their S.G. is lower than that of the liquid, or sink if higher. See **diffusion column.**

Hebrew stone. Graphic granite. An intergrowth of crystals of feldspar and quartz in which the arrangement of the latter suggests

Titles within **quotation marks** are misnomers. Every unusual word or term used is defined in this book and if printed in **bold faced type** its entry should be consulted. To fully understand the definitions, read the introductory pages.

letters of Hebrew alphabet.

hedgehog stone. Transparent quartz containing larger needles of göethite or some other hydrous iron oxide than those in **sagenitic quartz.**

heel splitter pearl. Same as **hackle back pearl.**

hei-tiki. A carved image for the neck; jade amulet, often buried with Maoris of New Zealand. (Kunz)

heliodor. A name originally given to an iron-bearing variety of beryl, Found in 1910 in German Southwest Africa and erroneously reported as a new stone although previously found in Brazil and Madagascar. Described by Dana and Kraus as yellow; Anderson, Eppler, Smith, Spencer and R. Webster, as golden or greenish-yellow; and by Schlossmacher as yellowish green. (S.G. 2.693), as distinguished from golden beryl (S.G. 2.680 to 2.685). Brownish beryl has also been called heliodor in the trade. See **golden beryl.**

heliodore. An alternate spelling of **heliodor.**

heliolita (Span.). Aventurine feldspar.

heliolite. Sunstone.

heliotrope (hee'li-oe-trope). Dark green chalcedony containing spots or patches of red jasper (Kraus). Sometimes fades to grayish green and spots are earthy hematite (Schlossmacher) From India and other sources. Less desirable yellow spots also occur. Same as **bloodstone.**

hemachate or **haemachate.** A light-colored **agate** spotted with red jasper.

hematinon or **haematinon.** A dark red glass, known to the ancients, to which metal filings are added to produce **aventurine glass.** Same as purpurin.

hematite. An opaque mineral; yielding pigments when red and earthy; fashioned as intaglios and other carved gems when dark gray to black with metallic luster. The latter variety is translucent and red in very thin sections. Leaves red streak which identifies from most imitations. The principal ore of iron. Hex. Fe_2O_3; H. 5½-6½; S.G. 4.9-5.3; R.I. 2.94-3.22; from England, Scandinavia, U.S.A. (Lake Superior region). Incorrectly called "bloodstone," (its ancient name), also "black diamond." Sometimes used to imitate black pearls. See **bloodstone, specular hematite.**

hemetine. A copyrighted, confusing name for an imitation of **hematite.** Fashioned in the form of an imitation **intaglio** or imitation **cuvette.** Possibly processed from a friable or powdered mineral or other substance. About H. 6.5; S. G. 4.8. **Streak** black.

hemihedral (hem"i-hee'dral). Having but half the planes or faces

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which a symmetrical crystal of the type to which it belongs would possess.

hemimorphic (hem″ĭ-more′fik). Having the opposite ends (of crystals) terminated differently.

hemimorphite. Translucent to opaque yellow to blue-green specimens have been cabochon-cut for gem collectors. When pure or mixed with smithsonite, from which it differs but slightly, it sometimes appears in the trade as **smithsonite.** Ortho. $H_2Zn_2SiO_5$; H. 4.5-5; S.G. 3.3-3.6; R.I. 1.614-1.636; Bi. 0.022. Also called calamine. From Montana, Utah, Nev., Ariz., and other states and countries.

hemiopal. Same as **semiopal.**

Herbert Smith Refractometer. Same as **Smith Refractometer.**

Hercules stone. A name for **lodestone.**

"Herkimer Diamond." Rock crystal, from Herkimer County, New York.

herrerite. Copper-stained blue and green smithsonite from Albarradon, Mexico. (Schlossmacher)

hessonite (hess′on-ite). A transparent to translucent variety of **grossularite.** Yellow to red-orange varieties known as **hyacinth garnet;** yellow-brown to reddish brown as **cinnamon stone.** Usually has a loupe-visible granular structure unlike true **hyacinth** (zircon).

hessonite glass. An orange-colored glass, used for imitations.

Hex. Abbreviation used in this book for hexagonal crystal system.

hexagon cut. Any style of cut the outline of the girdle of which is six sided, i.e., hexagonal. Called *square hexagon* if all sides are of equal length; *pointed hexagon* if two parallel and equal-length sides are much longer than others; called *oblong hexagon* if those sides are but slightly longer.

hexagonal mineral or **stone.** A mineral or stone of the **hexagonal system.**

hexagonal system. A system in crystallography, a division of which is known as the rhombohedral system; has four axes, three in one plane intersecting each other at 60°, the fourth perpendicular to this plane. Corundum, beryl, tourmaline, and quartz are important gems in this system. See also **crystal systems.**

hexahedron. A solid bounded by six plane faces. The regular hexahedron is the cube, a common crystal form.

Hf. Abbr. for the element hafnium.

Hg. Abbr. for the element mercury.

hiaqua (American Indian). Necklace of beads (or shells). (S. H. Ball)

hiddenite (hid′n-ite). Green spodumene found only in small crystals in North Carolina. In-

tense but pale yellowish-green to yellow-green. See **spodumene.**

High Priest's Breastplate. See **Breastplate of High Priest.**

Hindoo or **Hindu cut.** Schlossmacher describes this as a style of unsymmetrical over-all faceting of stones to preserve maximum weight and size of the rough.

hinge pearls. (1) Pearls of elongated shapes from the hinge of the fresh water mussel. (2) A trade term for pearl shapes cut from the hinge.

"Hinjosa topaz." Brownish red citrine from Hinjosa del Duero, District of Cordova, Spain. Heat treated to fiery red-orange color as distinguished from the Madeira wine color of so-called **"Madeira topaz."** See also **"Spanish topaz."**

historical gemology. History of the discovery and production of gemstones and their substitutes and of their use as personal. and other ornament.

hmaw sit sit. In India, a dark green and soft variety of jadeite.

hmyaws or **hmyaudins.** Mining term used in Burma for a deep open mine in a gently sloping hillside or between hills, situated in a sloping valley.

hollow doublet. A doublet which contains a colored liquid in a concave depression hollowed out of the lower surface of its top section or the upper surface of its bottom section, or both.

hollowed cabochon. Cabochon-cut stone with a concave depression in its under surface, to lighten its color.

hollow pearl. Same as **wax-filled pearl.**

holohedral forms. Those which are holohedrons.

holohedron. A form having the full number of symmetrically arranged faces possible in its crystal system.

hololith ring (hoe'loe"lith). An entire finger ring made from a single piece of gem material.

holomorphic. Uniformly or completely symmetrical.

Holzstein. The German name for **petrified wood.**

"Honan jade." Same as **"Soochow jade."**

Hope Cat's-eye. A large, nearly hemispherical stone, about 1½ inches in diameter, once in the **Hope collection.** A chrysoberyl cat's-eye.

Hope Chrysoberyl. A 45-ct., flawless, yellowish-green, oval, brilliant-cut chrysoberyl, now in the British Museum (Natural History), called by it a matchless specimen. Once in **Hope collection.**

Hope collection. A collection of gems made by Thos. P. Hope, a wealthy British banker of the early 19th Century.

Hope Diamond. A famous diamond, blue, 44.5 m.c.; once in Hope

collection, now belonging to the estate of Mrs. Edw. McLean. Also known as Hope Blue Diamond.

Hope Opal. See **El Aguila -Azteca Opal.**

Hope Pearl. An 1800-grain pearl somewhat cylindrical, but swelling at one end, white, but brown tinted at one end. Once in Hope collection, and now in British Museum (Natural History). It is thought to be the largest known precious pearl; length 2½ inches, circumference, 3½ to 4½ inches. See also **Pearl of Asia.**

"Hope sapphire." Term originally applied to blue synthetic spinel, and later used extensively for synthetic blue sapphire.

Hope stone. A trade name applied by an American importer to any synthetic corundum or spinel. See **"Hope sapphire."**

"Horatio diamond." Rock crystal from Arkansas.

hornblende. (1) A dark green brown non-gem **amphibole;** (2) A term used by most German mineralogists to refer to the entire amphibole group. See **nephrite.**

hornblende jade. A term sometimes used overseas for **smaragdite.**

horn coral. See **black coral.**

hornstone. (1) In Anglo-American usage, a flint-like non-gem **quartz.** (2) In German usage a fine grained cryptocrystalline quartz, grading into, but not including, jasper and chalcedony. Gray or brown, and sometimes green, black or yellow; rarely yellowish red as in **apricotine,** its only variety of gemological interest (Eppler, Schlossmacher). Bauer's earlier inclusion of chrysoprase and petrified wood as varieties is now of interest only in **historical gemology.**

"Hot Springs diamond." Rock crystal.

howdenite. Chiastolite with fern-like markings, from South Australia. (Merrill)

Hsi jade (Hsi Yü). A Chinese name for either clear water or clear black jade.

Hsieh jade. Hsieh Yü, a Chinese name for ink black jade.

Hsiu Yen. A Chinese name for green and white jasper. Often sold to tourists as jade.

hue. The principal attribute by which a color is distinguished from black, white or neutral gray. The attribute by which colors, when they are arranged in their orderly spectrum sequence, are perceived as differing from one another. Thus, technically, each wave length in the **visible spectrum** propagates a different hue. Thus, red, yellow and green, as well as greenish yellow, green yellow, and yellowish green, are different hues, while pink (light red), maroon

(dark red), and brownish red, are colors which have the same hue but which differ in other attributes. See **tone, intensity.**

huinzo. Peruvian Indian name for lapis lazuli. (Ball)

hulls. The very thin outer coatings or nacreous layers of pearl.

"Hungarian cat's-eye." An inferior yellowish green variety of **quartz cat's-eye,** from Bavaria, not Hungary.

Hungarian opal. A white opal with a fine play of color, found in former Hungary — now Czechoslovakia. See page 259.

"hyacinth." Incorrect when applied to hessonite, unless full name *hyacinth garnet* is used. See **hyacinth.**

hyacinth (hye'a-sinth). A variety of zircon. The term is by some authorities applied only to the red and orange variety, many of which have been heat treated. Others use it interchangeably with jacinth to mean yellow-orange or red or brown zircon. It is sometimes loosely used to mean any zircon. The word is also used as a color designation meaning orange-red to orange, as in hyacinth garnet, hyacinth sapphire. See **"hyacinth."**

hyacinth garnet. Hessonite. See **hyacinth,** and **"hyacinth."**

hyacinth of Compostella. Red ferruginous **quartz** from gypsum beds of Santiago de Compostella in northern Spain (Bauer-Spencer and Schlossmacher). Others attribute the red color to inclusions of hematite. Still others apply the term, through error, to reddish gypsum, and Schlossmacher makes a second reference to it as brownish **citrine.**

"hyacinth of Vesuvius." Brown or honey-yellow **vesuvianite** from Mt. Vesuvius.

hyacinthozones (hye'a-sinth"oe-zone-is). Sapphire-blue beryl.

hyacinth quartz. Red to reddish brown citrine.

hyacinth sapphire. Reddish orange to red-orange sapphire.

"hyacinth topaz." An incorrect name for hyacinth (a zircon).

hyaline. Opalescent milk quartz (Eppler).

hyalite. Colorless common opal; not gem quality.

hyalithe. An opaque variety of glass, frequently black, green, brown, red, etc. Resembles porcelain. (Standard).

hyalosiderite. Rich olive-green olivine, containing much iron (Merrill).

hydration. Combination with water or the elements of water.

hydrolite. Same as **enhydros.**

hydrophane. A dehydrated, yellowish, brownish or greenish variety of common opal which when immersed in water, be-

comes more translucent or transparent. Sometimes may exhibit **play of color.** Similar and more permanent results are sometimes obtained by immersing or boiling in oil. See **oculis mundi; pyrophane.**

hydrostatic weighing. Weighing of a substance first in air, then in water. The S.G. is then obtained by dividing the weight in air by the difference between the weights.

hydrous (hye'drus). Containing hydrogen or water, and therefore, yielding water on heating.

hypersthene (hye'per-sthene). A translucent to opaque, dark green or brown to black mineral, often exhibiting a metallic schiller. Ortho. $(FeMg)SiO_3$; H. 5-6; S.G. 3.3-3.5. R.I. 1.67/1.68-1.72/1.73; Bi. 0.010-0.016. From Labrador and other sources.

I

I. Abbr. for the element iodine.

ice-colored clear amber. (German trade grade). Best color quality of transparent amber. Colorless or very pale. See **clear amber.**

"Iceland agate." (1) Obsidian from Iceland. (2) A brownish or grayish variety of obsidian. (3) An alternate name for obsidian.

Iceland crystal. Same as **Iceland spar.**

Iceland spar. Transparent calcite. Because of its strong double refraction its more flawless qualities are used in optical instruments and research and known as **optical calcite.**

ice spar. Term has been incorrectly applied to adularia (moonstone) but is an alternate name for colorless sanidine, a different variety of orthoclase.

ice stone. Name used by Ojibways (American Indians) for white flint. Name doubtless applied to rock crystal. (Ball).

icy flakes. A seldom used trade name for small cracks along cleavage planes sometimes caused by overheating stones during polishing.

Idar agate. Name for any of the small agates the discovery of which resulted in the establishment of the gem cutting industry at **Idar-Oberstein.**

Idar-Oberstein. Twin towns in southwestern Germany. One of the world's largest cutting centers of less valuable colored stones. See **Idar agate.**

ideal crystal form. See **crystal form, ideal.**

identification (of a gemstone). The testing of the physical properties of a stone to determine whether genuine or not and, if genuine, its species; as distinguished from the former method of rendering of opinions based on the appearance of the stone to the eye. See **determinative gemology; gemological laboratories.**

idiochromatic stone (id'i-oe-kr e-mat'ik). Stone in which the substance producing the color is an inherent constituent of the mineral. Limited to such stones as **chrysocolla, malachite, diopside, azurite, turquoise** and **peridot.**

idiophanous. Exhibiting interference figures without the aid of

the polariscope.

idocrase (eye'doe-krase). Same as **vesuvianite.**

igmerald. Coined name of the I.G. Farbenindustrie of Germany for the variety of synthetic emerald made by it.

igneous rock (ig'nee-us). A rock formed by the solidification of a molten magma, either at the surface, as volcanic lava or within the earth as plutonic rock or intrusive igneous rock.

illam. Singhalese name for the local sedimentary gem gravels.

ilmenite. An opaque black mineral rarely cut for collectors or substituted for hematite. (Its streak is brown, hematite's is red). Hex. $FeTiO_3$. H. 5-6; S.G. 4.5-5.

image stone. Agalmatolite.

imitation cameo. See **cameo.**

imitation doublet. See **doublet.**

imitation foil back. See **foil back.**

imitation lacquer back. See **lacquer back.**

imitation pearls. Beads made of glass, wax or other substances coated with **essence d'orient,** as distinguished from natural pearls and cultured pearls. See **Roman pearl; "indestructible pearl."**

imitation star sapphire. See **star doublet.**

imitation triplet. See **triplet.**

imitations or **imitation stones.** (1) In the broadest sense, any material other than genuine gem material. A genuine stone that imitates a more desirable one is sometimes called its imitation: preferably its substitute. (2) More specifically, **glass, plastic,** or other amorphous substitutes or reproductions as distinguished from synthetic and reconstructed stones (which are crystalline) and from genuine **assembled stones** (portions of which are crystalline). See also **reproduction; simulated stone.**

immersion cup. An accessory for a **gemological microscope** containing a liquid of high R. I. and designed to eliminate reflections from highly polished facets and thus to expedite the observation of determinative inclusions.

immersion method. Term applied by mineralogists to method of determining R. I. of a substance by observing it in various liquids. See **Becke method.**

immersion stage. See **stage.**

imperfection. A trade term used to refer to an inclusion or faulty structure of any kind which is visible to the eye whether observed with or without the aid of a magnifier.

imperfection detector. An instrument designed especially for the detection of imperfections in fashioned diamonds, but equally useful in observing the nature of inclusions in fashioned, transparent, **colored**

stones. See **Diamond Imperfection Detector.**

Imperial Chinese jade. Same as **emerald jade.**

Imperial cultured pearl. One of the privately controlled trade names under which cultured pearls are sold in the U.S.A.

Imperial Diamond. Same as **Victoria Diamond.**

imperial jade. (1) In China, a term properly applied to the finest emerald green color of jadeite. The term has been adopted in the American trade. See **emerald jade.** (2) In other countries, a term which also has been used for a substitute, green aventurine quartz.

"Imperial Mexican Jade." Green-dyed calcite.

Imperial Yü-Stone. Green aventurine quartz. See **Yü.**

impregnated. Having a substance intimately dispersed or disseminated within.

inanga (Maori). A highly prized grey variety of New Zealand nephrite.

Inca rose. Rhodochrosite.

Inca stone. Pyrite.

incident light or **ray.** That which strikes the surface or enters a stone, as distinguished from the light which has subsequently entered the stone and, in most cases, been refracted or reflected.

inclusion. Any foreign body, whatever its origin, enclosed in a substance, such as liquids or small crystals of one mineral in another, or air or gas bubbles in glass or synthetic stone, visible to the unaided eye or with a magnifier only. See **determinative inclusion.**

inclusion, irregular. Irregularly shaped inclusion, especially that without apparent crystal form.

incrustation. A crust or coating.

"indestructible pearl." An imitation pearl consisting of a solid opalescent glass bead covered with layers of pearl essence, the quality of the imitation depending upon the number of coats, the quality of **essence d'orient,** etc. Fairly durable, but not indestructible.

index of refraction. A numeral which expresses the ratio of the speed of light in air to its velocity in a substance, and also, the ratio of the sine of the angle of incidence to the sine of the angle of refraction. In mineralogy this index is indicated by the symbol n; in gemology, by the abbreviation R.I. Thus the index of amber is expressed as either n 1.54, or R.I. 1.54. Same as **refractive index.**

Indian agate. A name for **mocha stone** or **moss agate.** Same as **dendritic agate.**

Indian cat's-eye. Cymophane. Same as **chrysoberyl cat's-eye, Ceylon cat's-eye.**

Indian cut. Term applied (1) by

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Bauer - Spencer to 10-facet table cut only; (2) by Cattelle to a clumsy form of the single brilliant cut; (3) by Schlossmacher to all unsymmetrically shaped or faceted, brilliant, step, mixed or cabochon stones cut in the Orient to preserve maximum weight from the rough.

"Indian emerald." Crackled quartz.

Indian garnet. Almandite.

"Indian jade." Aventurine quartz.

Indian pearl. (1) Pearl from East Indian waters, including Ceylon. (2) Any **Bombay pearl** or **Madras pearl.** (3) Rarely used to mean any **oriental pearl.**

Indian rule. Same as **Tavernier rule.**

"Indian topaz." (1) Citrine or topaz quartz. (2) Yellow sapphire from India (Smith). See correct usage under **Indian topaz.**

Indian topaz. Saffron yellow topaz from Ceylon (Bauer-Spencer, Schlossmacher, and Bull. 118, U. S. Nat'l. Museum).

indicators. Term used in determinative gemology for minerals or other substances of known S. G., pieces of which are used to indicate or calibrate the approximate S. G. of heavy liquids. See also **diffusion column.**

indices, refractive. See **refractive index.**

indicolite (in-dik'oe-lite). Blue tourmaline. Very light to dark violet-blue to blue. Frequently almost black, sometimes greenish-blue.

indigolite. Same as **indicolite.**

indigo sapphire. Very dark blue sapphire.

indra. A casein resin (plastic).

infra-red. That part of the **electromagnetic spectrum** beyond the red end of the visible spectrum (7900 Å), containing the so-called heat rays which produce luminescence in certain gems and other substances.

inky sapphire. Very dark blue sapphire.

ins or **in-byes.** Excavations in the Burma ruby mines, larger than **kobins.**

in situ (in sigh'tue). A term used to describe the location of minerals when found in the place where they were originally formed.

intaglio (in-tal'yoe or en-tal-yoe). A carved gem which may be used as a seal, in which the design has been engraved into the stone. Intaglios differ from cameos, in that the edges of cameos are lower than the figures.

intensity (of a color). The comparative brightness (vividness) or dullness or brownishness of a color; its comparative possession or lack of brilliance; therefore, the variation of a hue on a vivid-to-dull scale. See **hue, tone.**

interfacial angle. In crystallogra-

phy the internal angle between any two faces of a crystal form.

interference (of light). Explained by the undulatory theory as the reinforcement or the partial or complete destruction of certain of the rays of the spectrum when the undulation of the light rays traveling in the same direction coincide (and reinforce one another) or interfere (and tend to destroy each other). This complete or partial destruction or reinforcement of certain of component (colored) rays of white light causes **iridescence, labradorescence, orient,** and **play of color.**

interference colors. In descriptive gemology the colors which are observable as the result of the interference of light, such as in the **play of color** of the opal, and **iridescence** in rainbow quartz. In optical mineralogy, and determinative gemology, the number of orders of color observed in the optic axis figure of a specimen of given thickness is an index of the strength of birefringence.

interference figures. Figures due to the interference of light which can be seen in most doubly refractive minerals when examined in a certain way in convergent polarized light, as in a petrographical or gemological microscope, or under certain conditions in a gemological polariscope. The figures differing as to the arrangement of their colored rings and curves, combined with black bars and curves, and the manner in which they behave when the mineral or stone is rotated, indicate whether the mineral is **uniaxial,** or **biaxial.** and whether positive or negative. See **optic character; optic sign.**

intergrowth. A mutual interlocking of crystals, during their crystallization. The crystals may be of same or different minerals and in more or less close contact. See **crystal aggregate, crystalline aggregate.**

interlaced or **interwoven.** Confusedly interwined, as are fibres or slender crystals in some minerals.

International Jewelry Trade Bureau. Same as **B. I. B. O. A.**

interpenetration twins. Two or more crystals in twinned positions which penetrate each other. Same as **penetration twin.** See **twin.**

intumescence (in″tue-mes′ens). The property of bubbling and swelling upon fusing.

invelite. A plastic similar to bakelite.

Inverell sapphire. Blue sapphire from New South Wales, marketed through Inverell. Lighter blue than typical **Anakie sapphire.**

"invisible light." A term used to refer to certain radiations of

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light traveling in wave lengths too short or too long to be distinguished by the human eye such as **ultra-violet, infra-red.** See also **visible light.**

iolanthite. Local trade name for a banded reddish jasper-like mineral from Crooked River, Ore.

iolite. Transparent to semi translucent, blue to blue-violet, often greyish blue, mineral. Sometimes cut as gem, but rarely faceted. Usually massive and cloudy to almost opaque. Very strongly trichroic to the unaided eye; dark violet-blue, light grey-blue and light yellow are the trichroic colors most generally listed by mineralogists. Ortho. $Mg_2Al_4Si_5O_{18}$; H. 7-7.5; S.G. 2.57-2.66; R.I. 1.53/1.54-1.54/1.55 (Dana shows variation 1.53-1.60); Bi. 0.009; Sometimes displays a star-like effect and frequently a girasol effect when cut cabochon. From Ceylon and Brazil principally. Same as **dichroite, cordierite.**

ion. An electrically charged atom or atomic group.

Iran or **Iranian lapis.** Same as **Persian lapis.**

Iran or **Iranian turquoise.** Same as **Persian turquoise.**

iridescence. The exhibition of prismatic colors in the interior or upon the surface of a mineral caused by interference of light from thin films or layers of differing refractive index.

"iridescent cat's-eye." Unsatisfactory term sometimes used for **chrysoberyl cat's-eye** to distinguish it from quartz-cat's-eye.

iridio-platinum. An alloy usually containing 90% or more of platinum. The remaining percentage is of iridium which is necessary to produce an alloy sufficiently stiff for use in gem **mountings.**

iris agate. Banded agate which in thinly fashioned sections displays iridescence. Of almost no gem importance.

iris quartz. Rock crystal containing thin air-filled cracks which produce iridescence. Same as **rainbow quartz.**

"Irish diamond." Rock crystal from Ireland.

iron-aluminum garnet. Same as **almandine.**

iron opal. Same as **jasper opal.**

"iron pyrites." Popular name for pyrite.

ironstone. Any hard earthy ore of iron, such as **hematite.**

irregular inclusion. See **inclusion, irregular.**

iserine or **iserite.** A blackish ferruginous mineral with a higher metallic luster than hematite. H. 5½-6; S.G. 4.5-5.2. Streak, brownish black. Has been substituted for **hematite.**

iserite. See **iserine.**

"Isle of Wight diamond." Rock

crystal.

Isle Royal greenstone. Chlorastrolite.

Iso. Abbr. used in this book for **isometric system.**

isochromatic (eye"soe-kroe-mat'-ik). Possessing the same color.

isometric (eye"soe-met'rik). Equal in measure, as the **isometric system.**

isometric mineral or **stone.** Mineral or stone of the **isometric system.**

isometric system. The cubic system of crystallization. Substances of this system are all isotropic and their axes are of equal length. An **ideal crystal form** of this system is therefore a cube or a variation of it such as an octahedron. Diamond, spinel and the garnets are the most important gem minerals of this system. Same as cubic system. See **crystal system.**

isomorphism (eye"soe-mor'fiz m). The property of crystallizing together in variable chemical proportions possessed by some minerals (and other substances) of like **atomic structure.** See **isomorphic replacement.**

isomorphous. Exhibiting isomorphism.

isomorphous replacement. Replacement of one element by another of the same **valency** in the chemical composition of a mineral, as in tourmaline, where iron, lithium and magnesium, etc., replace each other with resulting wide ranges of colors but little variation in other properties, iron producing no gem qualities. In other cases of isomorphic replacements wide variations in physical properties result. See **garnet.**

isotropic (eye"soe-trop'ik). Singly refractive. Affecting light similarly in all directions as it passes through the mineral. See also **anisotropic.**

"Italian chrysolite." Vesuvianite.

Italian coral. Coral from sea waters of Italian mainland and neighboring islands, as distinguished from **Algerian coral, Tunisian coral.**

"Italian lapis." Same as **"Swiss lapis."**

itatli. An Aztec name for obsidian.

ivory. The hard creamy-white opaque, fine-grained substance, consisting of a peculiar form of dentine, which comprises the tusks of elephants; also the dentine of the tusks of other large mammals. H. 2½; S.G. 1.70-1.93; R.I. 1.54 (R. Webster). In a broader sense, the dentine of any tooth.

ivory, artificial. Any substitute for ivory, such as bakelite, cederon, celluloid, fibroc, invelite, micarta, redmanol, and others.

ivory jade. A descriptive term of the Chinese for jade of a partic-

ular color and texture.

"ivory turquoise." Odontolite.

ivory, vegetable . The hard white kernel of the nut of certain palm trees (R. Webster).

iztac chalchihuitl. White or green Mexican onyx (Merrill). See **chalchihuitl, "Mexican onyx."**

iztli. Aztec name for obsidian which because of its many uses, was surnamed *teotetl* (divine stone). (Ball)

J

jacinta garnet. A trade term for yellowish garnet (Kunz).

jacinth (jae'sinth or jas'inth). A name which was originally an alternate spelling of **hyacinth,** but which has been used for (1) yellow or brown **zircon,** (2) red or orange **zircon,** (3) any **zircon,** or (4) **hyacinth garnet.** Having become meaningless, the name is now obsolete in the American trade.

jacinto (Spanish). Hyacinth.

Jacumba hessonite. Hessonite from near Jacumba Hot Springs, San Diego Co., Calif.

jade. A gemological group of two minerals, jadeite and nephrite, of differing chemical composition but rather closely related in appearance, in physical properties, especially their unusual toughness, and in uses which include jewelry, carved objects, and various ornamental objects. Occurs in large compact masses, and its color is often unevenly distributed. See **jadeite; nephrite.**

jade fisher. Chinese name for an alluvial jade miner.

jade glass. A green translucent to opaque glass, usually a lead ("flint") glass; S.G. about 3.73. (Anderson)

jadeite. A semi-translucent to almost semi-transparent mineral, a more valuable jade than nephrite. White, green, and white most common. Also gray, mauve, lavender, pink, reddish, and orangy to brown. Structure of tougher qualities consists of closely matted fibrous crystals. Chloromelanite is a dark green to nearly black variety. $NaAl(SiO_3)_2$. Mono. H. 6.5-7; S.G. 3.3-3.5; (Chloromelanite 3.4); R.I. 1.66/1.68 (Schlossmacher); 1.654-1.667 (Dana). From upper Burma; perhaps also China, Tibet, and Mexico. See **jade, nephrite.**

jadeolite. A deep-green chromiferous **syenite** cut as a gemstone and resembling jade in appearance, from the jadeite mine at Bhamo, Burma. Possibly the same as **pseudojadeite.**

"jade tenace." Saussurite.

jais, jai, jayet (French). **Jet.**

Japan (or **Japanese**) **pearl.** (1) A term originally used for **cultured blister pearl** but later used for whole **cultured pearl.** (2) A

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correct name for any pearl from Japanese waters whether cultured or genuine. The latter occasionally is marketed with the former, and not distinguished from it.

Japanese coral. Coral from Japanese waters. Usually pink in color with white centers. Beads and cut specimens pink, often flecked with white.

jardin. (French, garden). Term applied to a group of mossy inclusions typical of fine **Colombian emerald.**

jargoon or **jargon.** A name used (1) infrequently for any variety of **zircon,** (2) more generally for colorless to grayish yellow or pale yellow **zircon,** (3) most specifically and correctly for colorless **zircon** only.

jasp agate or **jaspagate.** A mixture of jasper and chalcedony with chalcedony predominating. Schlossmacher mentions that cutters call it agate jasper or jasp agate, depending upon whether the translucent agate or opaque jasper predominates.

jaspe (Fr. and also Span.). Jasper.

jaspe fleuri (obsolete). Vari-colored jasper agate.

jasper. An opaque red, yellow, brown, rarely dark green, or little-used grayish-blue or lavender, fine-grained, impure cryptocrystalline quartz, gemologically classified as a variety of chalcedony. Smith attributes its color to its impurities. Weil attributes a fibrous structure to the fine grains. The mineralogical difference between agate, and jasper, is slight, but Schlossmacher states that lapidaries (in Germany) classify completely opaque material as jasper, and semitranslucent to translucent as chalcedony, or, if varicolored, as agate. Widely distributed. See also **hornstone.**

jasperated agate. Jasper mixed with agate.

"jasper fleuri." Jaspe fleuri.

jasperine. Banded jasper of varying colors.

jasperite. Same as **jasper.**

"jasper jade." Term used by Chinese dealers for jade substitutes, including serpentine, quartz or combinations of quartz and jade. See **"Soochow jade."**

jasper opal. An almost opaque common opal, most commonly yellow-brown; almost reddish brown to red, due to iron oxides. Resembles jasper in appearance.

jasper ware. A semiporcelain employing a granulated dip invented by Josiah Wedgwood, adaptable to various types of ceramic ware, but especially to the moulding of cameos, the most popular of which in jewelry, are of white figures on a blue ground.

jaspe sanquin (French). Black jasper.

jaspidean. Consisting of or containing jasper; like jasper.

jaspilite. A term used in Lake Superior region for bright red jasper alternating with bands of black, commonly, specular hematite.

Jaspis (German). Jasper.

jasponyx. An opaque onyx, part or all of whose layers consist of jasper, or near jasper like chalcedony.

jaspopal. Same as **jasper opal.**

jet. A black variety of lignite (brown coal); a fossilized coniferous wood. Inflammable. H. 3-4; S.G. 1.10-1.40; R.I. 1.64-1.68. From England and Spain.

jet glass. Black, opaque glass. H. about 5.

jet stone. Black tourmaline. (Power).

jewel. (1) A fashioned gemstone or a pearl. (2) Any ornament made of the platinum metals or gold of more than 10 karat fineness whether or not set with a genuine or synthetic gemstone, or with a genuine or cultured pearl. (3) A badge or ceremonial ornament containing genuine or artificial gems, enamel or the like. See **jewelry, solid gold.**

jeweler (British, jeweller). Term applied in U.S.A. to any merchant selling genuine or imitation jewelry or to any maker or repairer of jewelry. See **Registered Jeweler, A.G.S.**

jeweler's gemological laboratory. In North America a department in a jewelry store in which gemstones are identified and diamonds graded. Minimum equipment includes: (a) a diamond **balance;** (b) a **Diamondscope, diamond imperfection detector,** or a **Gemolite;** (c) a **micrometer;** (d) a **refractometer;** (e) a **monochromator;** (f) a **gemological polariscope;** (g) **dichroscope;** and (h) **hardness points.**

"jeweler's topaz." Citrine or **topaz quartz.**

jewel jade. Same as **emerald jade.**

jewel land. See **Mogok Stone Tract.**

jewelry (British, jewellery). In North America, any personal adornment wrought from precious metals, or any ornament which can be worn as a substitute for it, such as shell jewelry, plastic jewelry, etc. See **costume jewelry.** In trade usage, the term jewelry includes (1) any article worn or carried wholly for personal adornment, or (2) any article worn or carried for utilitarian needs which is (a) made of precious metals, (b) set with precious gems or (c) made in imitation of any utilitarian article made of precious metals and set with gems. Differs in meaning from **jewel.**

jig. A sieve shaken vertically in

water to separate gem gravel from worthless material. Also, a pulsator.

joaillerie. The French term for jewels, separate and distinct from the term *bijouterie,* which refers to jewelry, containing no gems. See also **bijouterie.**

jobber. A wholesaler as distinguished from an importer or manufacturer, either of whom may sell to jobbers or retailers or both.

jobbing stones. A jeweler's assortment of unmounted stones, kept for use in repair, remodeling or rehabilitating jewels.

Job's tears. Local name for peridot from Arizona and New Mexico.

johnite. A variety of vitreous or scaly turquoise.

jolite. Iolite.

Jolly balance (jol'i; prop., yole'e). A spiral spring balance especially adaptable to rapid determination of specific gravity of medium to very large-sized specimens of cut and rough gems.

Jonker Diamond. (1) A 726-C South African diamond of exceptional color and purity discovered in 1934. (2) The largest stone cut from it which weighs 125.65 metric carats.

"Jourado diamond." A colorless imitation stone.

Juan jade. A mixture of fine white and red jade.

Jubilee diamond. A famous 650.8 m.c. South African diamond from which was fashioned a 245.35 m.c. brilliant-cut stone. Thought to be now in treasury of an East Indian prince.

junk box. Term used by jewelers for a collection of damaged or temporarily useless gem materials, for the most part salvaged from worn-out or out-moded jewelry.

K

K. Abbreviation for (1) the element potassium; (2) Karat; see **carat.**

kahurangi. A pale-green translucent variety of New Zealand nephrite jade; rare. (Smith)

Kaiyéral. Ceylonese trade name for a dark-colored treble pearl, not quite round. (Kunz)

kalanchu. (1) A Ceylonese measure of weight used in pearl trade; the equivalent of 67 grains troy. (2) A term applied to the four inferior classes of **true pearl** from Ceylon, i.e., **kalippu, pisal, kural,** and **tul.** See **chevvu; vadivu.**

Kalette (German). Culet.

kallainite. Same as **callainite.**

kallait. Same as **callait.**

kallipo or **kalippu.** Ceylonese trade grade of pearls; includes lens shaped or elongated pearls usually flattened, (Kunz) and with external blemishes (Boutan). Similar to **masanku,** but of poorer quality (Cattelle).

kalmuck opal or **agate.** Same as **cacholong.**

Kan C'hing jade. A Chinese name for pale bluish jade.

kand or **kann.** Same as **cand.**

"Kandy spinel." Almandite from Ceylon.

Kaneelstein (German). Hessonite.

Kan Huang jade. A Chinese name for light yellowish jade.

Kan jade. Kan Yü, a Chinese name for jade which is the color of boiled chestnuts.

kann. See **kand.**

karat. See **carat.**

Karfunkle (German). Carbuncle.

Karlsbad Spring stone. A banded red, white and brown gypsum used in small carved objects and cheap jewelry. (Pough)

Karneal (German). Carnelian.

Kashgar jade. Nephrite of inferior qualities from the jade market and cutting center of Kashgar, Chinese Turkestan. Best qualities from this area are usually sold to cutters in Peiping, Shanghai or Canton.

Kashmere or **Kashmir sapphire.** Same as **Cashmere sapphire.**

kauri copal, kauri gum or **kauri resin** (cow'ree). Resin from the Kauri pine *(Dammara australis)* from Australia, New Zealand, and other sources. Oc-

curs in whitish yellow masses. Used in some inferior imitations of amber. According to Bauer has dirty appearance compared with amber. Smells like turpentine. See also **copal; dammar.**

kawakawa. Maori name for ordinary green variety of **nephrite.** (Smith)

kawk. Cornish name for fluorite.

kelve. Cornish name for fluorspar.

Kerr, Paul Francis (1897-). B. S., Occidental College, 1919. Ph. D., Stanford, 1923. Faculty Columbia Univ., 1923; instructor, evening extension classes in gemstones, Columbia Univ., 1923. Professor (mineralogy) Columbia Univ. 1932-. Exec. Officer Dept. Geology 1944-; member Examinations Standards Board, Gemological Institute of America, 1930-. Co-author, with A. F. Rogers, of *Optical Mineralogy,* 1942, and some fifty other mineralogical contributions.

keystoneite. Blue chrysocolla or chalcedony colored by copper silicate.

khesbet. Egyptian word for lapis lazuli but probably of Babylonian origin. (S. Ball)

Khiraj-i-Alam Ruby. See **Timur "Ruby."**

Khorog lapis. Lapis lazuli from near Khorog, Russian Badakshan, and usually sold as **Badakshan lapis.**

Khotan jade. Nephrite of inferior qualities from jade market and cutting center of Khotan (Sinkiang), Chinese Turkestan. The best qualities mined in the neighborhood are usually sold to cutters in China.

"kidney stone." Nephrite.

kikukwaseki (Japanese). A radial aggregate of xenotime and zircon. Also called chrysanthemum stone. From Ishikawa, Iwaki province, Japan (English).

"Killiecrankie diamond." Colorless topaz from Tasmania.

kimberlite. Mineralogical name for the petrological brecciated peridotite, more usually called blue ground, which is the diamond-bearing rock of the South African **"pipes."**

kimpi (East Indian). A red or brownish variety of jadeite.

kindradite. Mis-spelling for a spherulitic jasper-like quartz from California. See **kinradite.**

King, Charles William (1818-1888). Author of *Handbook of Engraved Gems; Natural History of Gems; Natural History of Precious Stones and of the Precious Metals; Natural History of Gems, or Semi-Precious Stones.*

King Croesus stone. Same as **simav opal.**

kingfisher jade. Jade resembling the color of the brilliant blue-green back of the kingfisher. See **Fei-Ts'ui**

king's coral. Black coral formerly abundant in Persian Gulf and on

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Great Barrier Reef of Australia. Not used in Occident. See **black coral.**

king stone. Same as **"king topaz."**

"king topaz." Term used in Ceylon for deep yellow sapphire, but elsewhere in Orient for orange or even brownish sapphire, and for pale yellow citrine.

kinradite. A local trade name for jasper containing spherulites of colorless or nearly colorless quartz. Much of it is the same as orbicular jasper. From California and Oregon.

klaprothine. Same as **lazulite.**

Klein's solution. Boro-tungstate of cadmium; melts to an aqueous solution of S.G. 3.55 which is lowered by dilution with water. R. Webster places S.G. of Klein's solution at 3.28.

kobins. Reinforced pits from four to five feet in diameter in Burma ruby mines.

kochenite. A fossil resin, like amber. Kochenthal, Tyrol. (English)

kodai pearl. Ceylonese trade grade for a pearl with no nacreous luster; formed of prismatic shell. It may be large, is usually spherical, and includes pearls of various colors. The name is also used for white pearls with black or brown marks. *Van kodai:* a kodai pearl with one side nacreous. *Karunk kodai:* a black or blue-black slag-like pearl. (Kunz) In this definition prismatic shell probably has same meaning as **prismatic layers.**

Koenigskrone mine. An old mine in Saxony which was the source of the topazes in the crown jewels of the King of Saxony. See **Green Vaults.**

Kohinoor Diamond (or Koh-i-nur). World's most famous diamond. An Indian diamond with long history with Mogul dynasty and Persian rulers. Reaching England it was recut from about 186 to 108.93 m.c. In state crown of the Queen of England. See **Great Mogul Diamond.**

Kollin garnet. Almandite from Kollin (Bohemia). See **Bohemian garnet.**

Kongo emerald. Same as Congo emerald.

"Korean or **Korea Jade."** Term used for (1) various impure jades; (2) bowenite (Smith); (3) artificially colored soapstone or other minerals; (4) glass imitations of jade.

kornerupine. An unusual mineral sometimes cut for collectors. Colorless, yellow or brown, and from Madagascar, sea green. Ortho. $MgAl_2SiO_6$; H. 6½; S.G. 3.28-3.34; R.I. 1.67/1.68. Dichroism, strong, green and yellow to reddish brown. Also from Ceylon, Germany and Greenland. (Smith)

korowell. A Ceylonese trade grade of pearls; includes double pearls (Boutan). Apparently same as **kuruval.**

krantzite. A **fossil resin.**

Kraus, Edward Henry (1875-). Professor of Crystallography and Dean Emeritus of the College of Literature, Science and the Arts, University of Michigan. B.S., Sc.D. (hon.), LL.D. (Syracuse); Ph. D. (Munich). President (1946-) and Honorary Member of Gemological Institute of America. Member G. I. A. Examinations Standards Board; Fellow Geological Society of America; Mineralogical Society of America (Roebling Medalist 1944); Author of *"Mineralogy"* with Walter F. Hunt and Lewis S. Ramsdell; *"Gems and Gem Materials"* with Chester B. Slawson; and other reference works on mineralogy and numerous mineralogical and gemological papers.

Künstlicher Edelstein (German). Artificial stone.

Kunz, George Frederick (1856-1932). Mineralogist and gem expert. Vice-President of Tiffany and Company. Author of *Curious Lore of Precious Stones; Magic of Jewels and Charms; Rings; The Book of the Pearl* with Charles Hugh Stevenson. *Ivory and the Elephant; Gems and Precious Stones of North America*; and *California Gems.*

kunzite (koonz'ite). Transparent pink to lilac-colored **spodumene** named for **Kunz.** A comparatively new gemstone, discovered in 1902 or earlier in Southern California; later found in Madagascar.

kural. A Ceylonese pearl trade grade said to include (1) very small and misshapen pearls (Boutan; Kunz), or (2) deformed or double pearls (Cattelle who probably confused with **kuruval**).

kuruval. Ceylonese trade grade consisting of deformed or double pearls (Kunz). See **vadivu.**

kyanite. Same as **cyanite.**

kyauk-ame (East Indian). Black variety of jadeite.

kyauk-atha (East Indian). White translucent jadeite.

kyauk-me (East Indian). Term applied to dark stones at the Burma ruby mines.

L

laboratories, national gemological. See **national gemological laboratories.**

laboratory, gemological. See **gemological laboratory.**

labradorescence. The phenomenon notably possessed by labradorite and peristerite which, when polished along the proper crystallographic direction (Smith says along a cleavage plane) displays laminated flashes of an iridescent-like but single hue which gradually changes as it is moved about in a reflected light. See **labradorite.**

Labrador feldspar. Labradorite.

Labrador hornblende. Same as **hypersthene.**

labradorite (lab″ra-dore′ite or lab′ra-dor̋′ ite). An opaque plagioclase **feldspar,** the colors of which are grayish except when cut to display labradorescence which consists of brilliant blues, and less frequently, greens, yellows, reds, oranges, and bronzes. Sometimes carved as cameos. H. 6; S.G. 2.6-2.7; R.I. 1.56-1.57. From Labrador, Finland, Russia and Colorado. See **feldspar.**

Labrador moonstone. A variety of labradorite. Specimens from Madagascar are translucent, yellow-brown with fine bluish **adularescence.** (Schlossmacher).

Labrador rock. Labradorite.

Labrador spar. Labradorite.

Labrador stone. Labradorite.

lacquer back. A transparent or translucent stone, the pavilion of which has been covered with colored lacquer, cement or similar material to change or intensify its color. A glass imitation stone so treated is an *imitation lacquer back.* Gemologically a variety of **foil back.**

ladjward-jui (Afghan for *Lapis Lazuli Brook*). The name of the stream near Faisabad near which **Badakshan lapis** is found.

"Lake George diamond." Colorless doubly terminated quartz crystal from Herkimer Co., N. Y.

Lake Superior agate. (1) Any agate from Lake Superior region. (2) Incorrect name for **thomsonite** from same region which is marked or banded as is agate.

"Lake Superior fire agate." A glass imitation of opal. (Kraus and Slawson)

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Lake Superior greenstone. Chlorastrolite.

lamellae (la-mel'ee). Thin plates or layers; **laminae.**

lamellar (la-mel'ar or lam'e-lar). Consisting of laminae; tabular.

laminae (lam'i-nee). Thin plates or layers, usually, but not always, of repeated or polysynthetic **twinning.**

laminated (lam'i-nate"ed). Consisting of, or arranged in, plates or layers.

landerite. Pink grossularite from Xalostoc, Morelos, Mexico. Same as rosolite and xalosticite.

landscape agate. White or gray chalcedony with inclusions of irregular arrangements of manganese oxide which bear fanciful resemblance to a landscape.

Lao Kan C'hing jade. A Chinese name for bluish jade. See **Kan C'hing jade.**

Lao Kan Huang jade. A Chinese name for deep yellowish jade.

lap. Horizontally revolving metal circular disc, usually 12" to 18" in diameter, against which gems are held to be ground or polished or faceted. Soft iron for diamonds. Copper, gun metal, lead, pewter, wood, cloth-covered, leather-covered, etc., for colored stones.

La Paz pearl. A trade term for pearl fished in the Gulf of California and Pacific coastal waters of Mexico and Central America. Usually **black pearl** of grayish or bronzy varieties but sometimes **white pearl** of fine quality. Formerly marketed through La Paz, Mexico, but most of the molluscs have disappeared. They were variously reported to be found in the species *Margaritifera m. mazatlanica* (Kunz). or the species *Meleagrina californica* (Boutan). Schlossmacher mentions the mussel *Malleus* as producing the bronze pearl. Same as Panama pearl. See also **Venezuela pearl.**

La Pellegrina Pearl. Pearl of 111½ grains, described by Kunz as one of the world's finest pearls. Last known in Russia in 1827.

La Peregrina Pearl. A pearl of 134 grains, found in Panama or Venezuela about 1570, and presented to Phillip II of Spain. Probably burned in fire at palace in 1734. Same as **Phillip II Pearl.**

lapidary. (1) One who fashions **colored stones.** (2) Place where they are fashioned.

lapidist (lap'i-dist). One who has a special knowledge of minerals and their preparation for use as gems or ornamental objects.

lapis (lape'is). Latin, a stone. Often used in the trade as an abbreviation for lapis lazuli.

lapis ardens. A Latin name for **amber.**

lapis lazuli (lay'pis laz'ue-lye or lap'is laz'ue-lye). A granular crystalline aggregate composed principally of the mineral lazurite (or blue haüynite according to Smith), and calcite or pyrite, or both, which often form noticeable inclusions;and sometimes with smaller amounts of diopside, amphibole, mica, etc. A rock; hence its properties vary, depending on proportions of various minerals present, the more that violet blue lazurite predominates the finer the quality; if all the usually associated minerals are absent it is lazurite, not lapis lazuli. S.G. 2.5-2.9. From Afghanistan, Chile, Russia. See **lazurite.**

lapis lazuli ware. A variety of **Wedgwood,** colored and marked to resemble lapis lazuli.

lapis lazzale (Italian). Lapis lazuli.

lapis matrix. Lapis lazuli containing prominent patches of calcite. See **Chilean lapis.**

lapis mutabilis (L.) Hydrophane opal.

lapper. A person who operates a **lap.**

lapping. The grinding or polishing of colored stones on a **lap,** by use of water and (1) diamond dust rolled or hammered into a soft metal lap or (2) a mixture of abrasive grit, usually silicon carbide. (Grodzinski)

lardite. Agalmatolite.

lard stone. Agalmatolite.

La Régente Pearl. Egg-shaped pearl of 337 grains, once a French court jewel. Sold in May, 1887.

La Reine des Perles (The Queen of Pearls). A fine, round oriental pearl weighing 27.5 c. stolen with other French crown jewels in 1792. Thought by some to have been purchased and renamed **La Pellegrina Pearl.**

La Tausca pearls. Trade-marked name for both solid and wax-filled imitation pearls.

lathi (Burmese). Term applied to 1¾-carat gemstones.

lattice. The pattern in which atoms or molecules are arranged in crystal structure.

lat yay (East Indian). Clouded jadeite. Used for making buttons, hat pins, etc.

Lauégrams. A name for Laué photographs or diagrams. The X-ray photographs used in identifying gemstones and pearls. Named for the noted physicist Max von Laué who discovered them.

Laufer, Berthold, (1874-1934). American anthropologist and orientalist. Assistant at Amer. Mus. of Nat. Hist. Author of

more than 200 monographs relating to archaeology, ethnology, art and religion, and of the following books: *The Diamond; A Study in Chinese and Hellenistic Folk Lore*, 1915; *Jade; A Study in Chinese Archaeology and Religion*, 1912; *Notes on Turquois in the East*, 1913.

lava. Molten rock, as that which flows from volcanos; also the same rock after solidification.

lavendine. Amethyst quartz (Merrill).

lazulite. A transparent-to-opaque mineral, light to a dark sky-blue, which somewhat resembles lazurite in color. Rarely cut except for collectors. Mono. $(Fe,Mg)Al_2(OH)_2(PO_4)_2$; H. 5-6; S.G. 3.1; R.I. 1.61/164; Bi. 0.031. From Brazil, Germany, Calif., N. C., and Ga.

lazurfeldspar. A blue variety of orthoclase, found in Siberia.

lazurite. A semitranslucent to opaque, light to intense greenish blue to violet-blue mineral. Iso. $3NaAlSiO_4Na_2S$; H. 5-5.5; S.G. 2.4; R.I. 1.50. Principal constituent of lapis lazuli, in which lazurite often contains, by **isomorphous replacement,** molecules of the closely related minerals hauynite, and sodalite and, according to Schlossmacher, occasionally noselite. See **lapis lazuli.**

lazurquartz. Blue quartz. See **sapphire quartz.**

lazurspar. Lapis lazuli.

lazurstone. Lapis lazuli.

lead glass. Any glass which contains a large proportion of lead oxide; the inclusion of this oxide raises the refractive index and dispersive power over that of ordinary glass. The lead glass most often used for gem imitation is flint glass (or strass). See **flint glass.**

lechosos opal or **lechos opal.** (1) An opal with a deep green play of color (Kraus and Holden). (2) A Mexican fire opal with emerald-green color play and flashes of carmine and dark violet-blue (Bauer-Spencer repeated by Schlossmacher). (3) A Mexican opal showing simultaneously an opal play of color with a fiery red self color (Schlossmacher). (4) Colorless or transparent colored Mexican opal with deep emerald-green and also dark-blue, dark-violet, rose, carmine and purple play of color (Eppler).

lemanita (Span.). Jade.

lenbouk. Burmese term for a first water ruby exceeding four carats.

lens system. Same as **optical system.**

lente acromatic (Span.). Achromatic lens.

lente aplanática (Span.). Aplanatic lens.

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lenticular. Lens-shaped; of tabular form, thick at the middle, and thinning toward the edges.

lentil. A form of cabochon cutting approximately symmetrical about the girdle plane, with comparatively thin convex top and base. This style is used especially for fashioning opal.

leonite. A trade name for a yellowish **Tibet stone.** Also a mineralogical name for a mineral of no gemological interest.

leopard jade. A descriptive term applied to spotted jade resembling the colors and marking of a leopard.

lepidolite (lep'i-doe-lite). Light reddish violet lithia mica; a matrix of tourmaline.

leptology (lep-tol'oe-ji). Rinne's term for the science of the fine structure of substances. See also **crystal structure.**

Leshem. Seventh stone in the breastplate of the high priest. Translated as *ligurius;* probably amber, but other authorities give jacinth, others a brown agate. Engraved with the name Joseph.

leucite. Same as **"Vesuvian garnet."**

leuco-sapphire (lue'ko). Colorless sapphire.

leukorite. Bakelite (Eppler).

Leveridge gauge. A dial **micrometer** designed by A. D. Leveridge.

Lèvy, Michel. French chemist who made synthetic spinel.

Li. Abbreviation for the element lithium.

Lichtbrechnung (German). Refraction (of light).

ligament pearl. Elongated misshapen pearl formed near hinge of a mussel.

light. A form of radiant energy, which like X-ray, radio, and other similar radiations, travels through space. See **interference** (of light);**refraction; speed of light; monochromatic light; ultra-violet; infra-red.**

Lightning Ridge opal. Any black opal from Lightning Ridge area of New South Wales, Australia, often of large size. See page 259.

light opal. Term which has been used to distinguish White Cliffs opal and other Australian white opal from **black opal.** See **white opal.**

light rosé pearl. Same as **white pearl,** but with rosé **orient** or a very light cream-colored pearl with rosé orient. Differs from light **cream rosé pearl.**

ligurite. An apple green **sphene.** (Dana)

Ligurius. See **Leshem.**

lime jade. A descriptive term applied by Chinese to a lime-green color of jade.

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limestone. A sedimentary rock composed chiefly of calcium carbonate (calcite). See also **marble.**

limonite. A brown iron oxide sometimes coating gem minerals, and usually an associated mineral with turquoise, in which it is often seen as brownish inclusions. With large pieces of turquoise it is fashioned as turquoise matrix. S.G. 3.8.

limpidity. Water-like transparency.

Linde synthetic ruby. Trade name for synthetic ruby made in U.S.A. by Linde Air Products Co.

Linde synthetic sapphire. Trade term forsynthetic sapphire made in U.S.A. by Linde Air Products Co.

Lingah pearl. Same as **Persian Gulf pearl.** See also **zinni pearl.**

Linschoten. Famous 16th Century Dutch traveler in Orient who formulated a rule for the valuation of gems. (S. H. Ball).

lintonite. An agate-like variety of **thomsonite** greenish or with alternating bands of pink and green. From Lake Superior region where it is cut and sold as a gemstone.

lion's-eye. A name used in some nations for cat's-eye.

liroconite (lye-rok'oe-nite). A translucent to opaque blue to greenish-yellow mineral occasionally used as an ornamental stone, and more rarely as substitute for turquoise. A hydrous arsenate of aluminum and copper. H. 2-2½; S.G. 2.9; R.I. 1.61/1.67; Mono. From Arizona and other sources.

"Lithia amethyst" (lith'i-a). Kunzite.

"Lithia emerald." Hiddenite.

lithia lazuli. Same as **lithoxyle.**

lithion beryl. Beryl containing lithium but no caesium, purely a chemical distinction.

lithomancy. Divination by minerals or gems.

lithoxyle, lithoxyl, or **lithoxylite.** Opalized wood in which original woody structure is observable.

liver opal. Same as **menilite.**

loadstone. Same as **lodestone.**

lodestone. That variety of the mineral magnetite which is itself a magnet.

loodwins (Burmese). Mine workings in caves or fissures. (V. Ball).

loop. See **loupe.**

loose diamond, pearl, or **other gem.** A gem not set in a jewel.

Los Cerrillos turquoise. From Los Cerrillos mines (near Mt. Chalcichnite), close to Santa Fe, N. M., possibly worked by Indians for centuries but now almost inactive; produced fine quality **American turquoise.**

loss of color. Becoming lighter, or darker in tone, as when blue becomes darker when observed under artificial light or becomes

lighter when exposed to sunlight. Any loss in intensity of color or change to a less desirable hue.

lot pearls. Small pearls, under 1 carat each.

loup. See **loupe.**

loupe (French), **lupe** (German), **loup,** or **loop.** The French word is accepted as correct spelling in English - speaking nations. Any small magnifying glass mounted for use in the hand as a **hand loupe,** or so that it can be held in the eye socket or attached to spectacles as an **eye loupe.** Loupes may contain a single lens or a system of lenses, and in commercial usage range in magnifying power from 2 to 20, the usual jeweler's or watchmaker's loupe being from 2 to 3 power, and aplanatic loupes from 6 to 20 power. See **loupe, corrected.**

loupe, corrected. A loupe in which the lens system has been corrected for either spherical or chromatic aberration, or both. See **aberration, aplanatic loupe, apochromatic lens, G.I.A. Registered Loupe.**

loupe-visible. Visible with aid of a **loupe.**

love's arrows. Same as **fleches d'amour.**

love stone. Aventurine quartz.

lozenge cut. A modern style of gem cutting; shaped like a playing card diamond.

lucinite. Variscite from near Lucin, Utah.

lucite. DuPont's trade name for a transparent methyl-methacrylate plastic. S.G. 1.19; R.I. 1.49. See **plexiglass.**

lucky stone. Same as staurolite.

Lu jade. Lu Yü, a Chinese name for bluish green jade.

luli. Local name for imitation pearl made in Egypt in the Roman era, by silvering a glass bead and then flashing over it another coat of glass.

lumachella. See **fire marble.**

lumachelle. Same as lumachella.

luminescence. A general term used to describe the emission of light by a substance when excited by rays (particularly ultra-violet or X rays), electrical discharge, heat, friction, or similar agency.

lumpy girdle. A too-thick girdle.

lumpy stone. Refers to one cut with too great depth in proportion to its width.

lunaris (lue-na'res) Latin, meaning moonstone.

lunar stone. A phosphorescent variety of barite.

lus. Mining term used in Burma ruby mines for deep underground excavations or shafts into the hillsides, sometimes several hundred feet in depth.

luster. The appearance of a surface in reflected light. It depends principally upon the relative

smoothness (texture) of the surface and upon the refractive index, which governs the amount of light reflected. Schiller, play of color, orient and other such optical phenomena are distinct from luster, but luster is related to **sheen.** See **adamantine luster; metallic luster; pearly luster; resinous; silky; vitreous; waxy.**

"luthos lazuli". Violet fluorite.

Lydian stone. Same as **basanite.**

lynx eye. Green **labradorite.**

lynx eye labradorite. Labradorite with a green schiller.

"lynx sapphire." Dark blue iolite (Schlossmacher). See **lynx sapphire.**

lynx sapphire. (1) Term applied to dark blue sapphires in Ceylon (Smith). (2) Very pale blue sapphire with a girasol effect (Schlossmacher). See **"lynx sapphire".**

lynx stone. Iolite.

M

machastone. Same as **mocha stone.**

machchakai. See **vadivu.**

macle (mak'l). Same as maacle. (1) A seldom-used name for chiastolite. (2) A twin crystal.

macroscopic (mak"roe-skop'ik). Large enough to be observed without the microscope.

Madagascar alexandrite. Alexandrite from Madagascar of inferior quality to Ceylon alexandrite or Russian alexandrite.

Madagascar amethyst. Amethyst from Madagascar, which is dark violet, has a slightly smoky tinge and if lighter in color is usually violetish purple.

Madagascar aquamarine. A term formerly used by some gem dealers to describe any aquamarine which was darker than the usual light blue variety. Most of these were mined in Madagascar. More recently many stones from Brazil have by heat treatment equalled or excelled them in depth of color.

Madagascar citrine. Said by Schlossmacher to be better, brighter and more like topaz in color than Brazilian citrine.

Madagascar morganite. Morganite of fine color and large size, from Madagascar.

Madagascar pearl. Fine pearl from Island of Madagascar, sold through Indian pearl markets as Indian pearl. (Boutan)

madanku. A Ceylonese trade grade for pearls. Literally, folded or bent. Pearls of small or **vadivu** class, but imperfect in form and color (Kunz). See **mondogoe.**

Madeira stone. Same as **"Madeira topaz."**

"Madeira topaz." Originally, citrine of fiery Madeira wine color, from Salamanca. Since 1900, similar colored stones have been produced by heating amethysts (Schlossmacher). See **burnt amethyst.**

Madras pearl. (1) Any **oriental pearl** marketed through Madras, India. (2) Any oriental pearl found in the Madras area. (3) As an *American trade grade,* a white pearl with faint bluish **overtone** and a rosé **orient,** a combination which produces a lavender tint. See also **Madras white pearl.**

Madras white pearl. Trade term for slightly rosé pearl with

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whiter body color than **Bombay pearl** (Kunz). Other authorities describe as slightly more metallic. Came principally from the now-dormant Ceylon fisheries. See **Ceylon pearl.**

magic stone. A white, opaque variety of hydrophane, in rounded lumps, with a chalky or glazed coating; from Colorado.

magma (mag'ma). Molten (liquid) rock material within the earth; the molten mass from which any igneous rock or lava is formed.

magnesium-aluminum garnet. Same as **pyrope.**

magnetic. Capable of either attracting a magnetic needle or of being attracted by a magnet.

magnetic twin. Same as **polysynthetic twin.**

magnetite. Opaque iron-black mineral of no gemological importance. See **lodestone.**

magnifier. Any instrument which magnifies such as a reading glass, **loupe, Gemolite, Diamondscope, Diamond Imperfection Detector** or **Microscope.**

Mahabharata (ma-ha-ba'ra-ta). A Hindu epic containing early information regarding India.

Mahar. See **Lingah pearl.**

Maharatnani. The five great gems of the Hindus, which for centuries have been the diamond, pearl, ruby, emerald and sapphire. (S. H. Ball)

maiden pearl. Pearl newly fished and not yet worn.

main facets. The bezel and pavilion facets. See page 259.

make. Trade term referring to proportions, symmetry, and polish; as a *well-made stone*, a *lumpy stone*, a *swindled stone*, etc.

malachite (mal'a-kite). An opaque, bright green ornamental and decorative mineral; an ore of copper, often banded in lighter and darker layers. Mono. $CuCO_3$ $Cu(OH)_2$; H. 3½-4; S.G. 3.5-4.1; R.I. 1.66 1.91. Bi. 0.25. From Arizona and numerous overseas localities.

malacolite (mal'a-koe-lite or ma-lak'-o-lite). Originally a light-colored variety of diopside from Sweden; now same as **diopside.**

malaquita (Span.). Malachite.

"malchit-jade." Same as **chrysodor.**

male ruby, sapphire, etc. Any dark-colored ruby, sapphire, etc. See **female ruby, sapphire, etc.**

malleable. Capable of being shaped by hammering or rolling.

Malleidae. The family of salt-water **bivalves** which include both the hammer shells and the so-called pearl oysters. Same as Aviculidae or Pteriidae. See also **Malleus; Meleagrina pearl.**

Malleus. The genus of **Malleidae** containing the hammer shells. See also **LaPaz pearl.**

maltesite (mol-teze'ite). A variety of andalusite resembling chiasto-

lite in its markings; from Finland.

mammillary (mam'i-lae-ri). Having a smooth, hummocky surface, with curved protuberances larger than botryoidal. See **botryoidal; reniform.**

manchadi. A Ceylonese weight, the equivalent of 3.55 grains troy.

Manchurian jade. Soapstone.

manganese-aluminum garnet. Same as **spessartite.**

manganese garnet. Spessartite.

manganese spar. (1) Rhodonite. (2) Rhodochrosite.

manganoandalusite. Same as **viridine.**

mangelin (man'g'lin). Hindu weight equal to 1⅜ carats.

Manila gum. Fossil resin from the Philippines.

Manila pearl. Pearl marketed through Manila. Principally of same quality as **Philippine pearl.**

Man jade. Man Yü, a Chinese name for jade of blood red hue.

mantle. External body wall or skin of a mollusc; that portion of the body which secretes the shell-building material.

manufactured stone. In gemology, any man-made substitute for a genuine gemstone. It may be an **imitation,** a **synthetic stone** or any other man-made reproduction.

manul (Ceylonese). Loose or soft sand sea-bottom.

Maori. The name of the native race and language of New Zealand.

Maori stone (ma'oe-ri), colloq. mou'ri). Name given nephrite of New Zealand from its use by the Maori natives.

marble. Crystalline limestone, a massive form of **calcite.** A building and **decorative stone.** Many varieties are ornamental stones, as Parian marble and Carrara marble used in sculptured figures and figurines, lamp bases, etc. Some varieties are used in costume jewelry, as the onyx marble called "Mexican onyx" or "Mexican jade." Never a gem stone.

marcasite (mar'ka-site). (1) An opaque bronze to grayish mineral with metallic luster. Ortho. FeS_2. (Same as pyrite). H. 6-6½; S.G. 4.8. (2) Trade term for pyrite, with which costume jewelry is sometimes paved, which has more brassy color but is more durable than true marcasite.

marekanite. A variety of obsidian from Siberia. (1) Mottled brown and black (Merrill). (2) Cloudy smoky gray (Eppler). (3) Brown and gray, often yellow and red, part uniform, part varied in color. Similar material from Mexico and elsewhere (Schlossmacher).

margarita (Latin). Pearl.

margaritaceous. Pertaining to or resembling pearl.

Margaritifera pearl (mar″gar-ri-tif′er-a). Pearl from the genus *Margaritifera*, an alternate name for the genus *Meleagrina*, which most scientists consider a more preferable name for this sub-genus of **Avicula.** See **Meleagrina pearl.**

margaritiferous. Pearl-bearing.

margaritomancy. Divination by use of pearls.

marialite. A variety of **scapolite.**

"mari-diamond." Rock crystal from India.

"marmarosh diamond." Same as **dragomite.**

marmol (Span.). Marble.

Marmor (German). Marble.

marquise. A term loosely used in the trade to mean either a **marquise cut** or a **marquise ring.**

marquise cut (mar-keze′). A variation of the brilliant cut with double-pointed boat-shaped outline. See **navette;** also page 259.

Marquise ring. One shaped like a **marquise cut.**Usually with one single stone or paved with stones.

masaku or **masanku.** Ceylon trade grade which includes (1) pearls somewhat irregular in shape and slightly faulty in shape or color (Cattelle). (2) Badly colored pearls, usually symmetrical, grey and with luster (Kunz).

"mascot emerald." Trade name for genuine beryl triplet. See also **"emerald triplet."**

masculine. Term applied to stones of a deep and rich color.

masengoe. Same as Cattelle's definition of **masanku** (Boutan).

masitúl, (meaning "ink-dust," or "chalk powder"). Generally used for medicinal purposes, or burnt and eaten with areca-nut and betel by the natives. A Ceÿlonese trade grade of pearls (Kunz).

mass aqua. Trade term for borosilicate crown glass imitation of aquamarine. H. 6; S.G. 2.35-2.37; R.I. 1.50-1.51.

massive. Not occurring in crystal forms, but not necessarily non-crystalline. In mineralogy, a compact crystal aggregate showing no exterior crystal form is said to be massive.

massive amber. A compact, almost colorless to dark orange-yellow variety of **Baltic amber.**

mass opal. Opal matrix.

Matan Diamond or **Mattan Diamond.** An unauthenticated Borneo diamond, probably quartz.

"Matara diamond." Ceylonese name for colorless to faintly smoky zircon, most of which has been decolorized by heating. Some naturally colorless may come from the district of Matara or Matura, Ceylon.

matched pearls. A term often in-

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terpreted to mean pearls exactly duplicated in color as to all of the color attributes—**hue,** tone and intensity—which is practically an impossibility with the number of pearls necessary in a necklace. Pearls may, however, be matched as to body color and predominant color of orient. Thus a necklace may consist entirely of light cream rosé pearls, but those pearls vary slightly in one or more color attributes, usually tone and intensity. See **blended pearls.**

matrice. Same as **matrix.**

matrix (mae'triks). The rock in which a mineral is contained, portions of it containing pieces of the mineral being known as **turquoise matrix, opal matrix,** etc.

matriz. (Span.). **Matrix.**

matted. Tangled closely together. Said of **crystalline aggregates** in which the crystals are closely packed together, as in nephrite. Same as felted structure.

Matto Grosso (mat'oo grose'oo). A gem-bearing state or territory of Brazil.

"Matura diamond." Same as **"Matara diamond."**

Maxixe aquamarine or **beryl.** A name which has been applied to a deep blue, boron-bearing beryl from the Maxixe Mine, Minas Geraes, Brazil.

Maxwell Stuart Topaz. A colorless topaz from Ceylon which, when brilliant cut about 1897, weighed 369 m.c. and created much comment (Kunz). Since then many larger colorless, yellow and blue topazes have been cut.

mayaite (ma'ya-ite or my'a-ite). Diopside jadeite from Central America such as found in ancient tombs of the Maya nation. Grades from tuxtlite to nearly albite. White to gray green or yellow-green. See **diopside-jadeite.**

m. c. Abbreviation for **metric carat.**

mean birefringence. The numeral which represents the average between the greatest strength of **double refraction** and the least strength of double refraction possessed by a species or variety. R.I. of sphene is 1.885/1.990-1.915/2.050; hence the **birefringence** varies from 0.105 to 0.135. The average, or mean, is 0.120. See also **refractive index.**

mean refractive index. The R. I. which is equidistant from the least R. I. and the greatest R. I. which is possessed by any substance. The mean R. I. of singly refractive gem **species** is expressed by one figure as 1.50; or doubly refractive substances by two R.I.'s as 1.50/1.55. (Anderson defines mean R.I. of a singly refractive gem as its most usual R.I.) See **refractive index.**

medfordite. A local Oregon name

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for massive white quartz with streaks and patches of green and brown moss.

"medina emerald." Green glass.

medium cream rosé pearl. See **cream rosé pearl.**

medwins. Open cuttings in East Indian alluvial hill deposits over which water is led.

meerschaum (meer′shom or shum). Same as **sepiolite.**

megascopic (meg″a-skop′ik). Visible to the unaided eye in contrast with miscroscopic. Same as **macroscopic.**

Mei-kuo Lu jade. Same as **American green jade.**

meionite. A variety of **scapolite.**

melanite. Black andradite garnet. Has been used in mourning jewelry.

Meleagrina martensi, Meleagrina margaritifera, Meleagrina vulgaris, Margaritifera margaritifera. See **Meleagrina pearl.**

Meleagrina pearl (mel″e-ea-gree′-na). Pearl from the *Meleagrina,* formerly and still more popularly known as *Margaritifera.* The principal producer of **true pearls** and sole producer of **oriental pearls.** *Meleagrina vulgaris* (or *Margaritifera vulgaris*) yields **Ceylon pearl, Persian Gulf pearl,** and others. *Meleagrina margaritifera* (or *Margaritifera margaritifera*) yields the **Tahiti pearl,** some **Australian pearl**, and others. *Meleagrina martensi* (or *Margaritifera martensi*) yields both the cultured and natural pearls of Japan. These and all other *Meleagrina* molluscs are subdivisions of the genus **Avicula.** See also **LaPaz pearl; oriental pearl; Venezuela pearl.**

mellow amber. A name for **gedanite.**

melon cut. A style of fashioning a bead or a cabochon stone; an elongated form with equidistant longitudinal depressions or meridians separating convex sections as in a cantaloupe.

melt. Often used to mean a paste or enamel in the liquid state before it hardens.

melting snow jade. Descriptive term for a white to grayish color grade of jadeite with opaque patches traversed by translucent streaks.

menilite (men′i-lite or men-ill′ite). Opaque, grayish or brownish banded common opal. An ornamental stone.

mercury vapor lamp. A light source derived from an electrical discharge through mercury vapor. Valuable as a source of **ultraviolet** light and also for distinctive spectrum in the visible region. (Shipley, Jr.)

Merguian Pearl. Pearl from Mergui Archipelago, on eastern shore of Bay of Bengal. Similar in quality to **Philippine pearl.** (Cat-

telle) Principally from *Meleagrina maximum*, but also from *Meleagrina vulgaris*. See **Meleagrina pearl.**

Merrill, George P. (1854-1929). Professor of Geology and Mineralogy, George Washington University; Head Curator U. S. National Museum, Washington, D. C. Compiler of *Catalog of Gems and Precious Stones*, Washington, 1922.

Mesa Grande tourmaline. Tourmaline from pegmatite ledge near Mesa Grande, San Diego Co., Calif. Much of fine quality was formerly mined there together with pink beryl. (Gems & Gemology)

Meshed or Meshhed turquoise. Turquoise from Meshhed, Persia, the market for **Persian turquoise.**

metallic luster. Having the surface sheen of a metal; with a metal-like reflection.

metallography. The science of metals.

metalloidal luster (met″al̄-oy′dal). Reflecting light, somewhat like a metal, but less than **metallic luster.**

metallurgy. Separation of metals from their ores or from impurities.

metamorphic (met″a-more′fik). Of. pertaining to, produced by, or exhibiting **metamorphism.**

metamorphism. The geological change in chemical composition or in the structure of a rock or mineral by heat pressure and other natural agents.

meteoric glass. See **moldavite.**

meteorite. A mass of stone or metal that has fallen to the earth from outer space.

methylene iodide. (CH_2I_2). A highly refractive (R.I. 1.74) and heavy (S.G. 3.32) liquid used for specific gravity determination and as a contact fluid for the refractometer. For the latter use, it is usually saturated with sulphur (S) and tetraiodoethylene (C_2I_4) to attain an R.I. of 1.815 (Shipley Jr.).

metric carat. See **carat.**

metric grain. See **grain.**

mewdwins. Same as **medwins.**

Mex. Abbr. used in this book for Mexican language, and for Mexico.

"Mexican agate." Banded calcite or aragonite.

"Mexican amber." Fossil resin from Mexico, related to "San Domingo amber" (Schlossmacher). See also **bacalite.**

Mexican amethyst. Amethyst of a distinctive reddish purple color from Guanajuato, Mexico. (Eppler).

"Mexican diamond." Rock crystal.

Mexican emerald. One which is or has been owned in Mexico, probably mined in what is today

Titles within **quotation marks** are misnomers. Every unusual word or term used is defined in this book and if printed in **bold faced type** its entry should be consulted. To fully understand the definitions, read the introductory pages.

Colombia.

"Mexican jade." A green-dyed common mineral, usually calcite. A variety of "Mexican onyx." See page 259.

"Mexican onyx." Term loosely applied to banded, mottled or clouded travertine (calcite) or aragonite, and more specifically to the yellowish or greenish banded varieties. From Argentina principally.

Mexican opal. (1) Any opal from Mexico. (2) Almost transparent, whitish, very pale red or yellow precious opal, often with fine play of color. S.G. 1.98-2.03 (Smith). See also **fire opal.**

Mexican pearl. A term which is not used in the trade but which seems to have been added to pearl nomenclature by an incorrect interpretation of Schlossmacher's definition and description of the **occidental pearl.** The term could be used in a geographic sense to mean any pearl from east or west coast of Mexico including **La Paz pearl** and pearl from Gulfs of Campeche and Mexico. The suggestion that the term apply to pearls from Gulf of Mexico only seems illogical as the word Mexican is generally accepted as referring to the nation, and not the Gulf.

Mexican turquoise. (1) A name commonly used in some nations for light blue to greenish-blue and bluish-green turquoise from New Mexico (U.S.A.) (2) Blue turquoise with a brown matrix, from Baja, Calif., Mexico. See page 259.

Mexican water opal. Term applied to translucent to almost transparent opal variety from Mexico with vivid play of color; yellowish by transmitted light. (Anderson)

Mg. Abbr. for the element magnesium.

mica (mike'a). A group of minerals notable for their easy cleavage, yielding thin flakes (laminae); low in hardness and of gemological importance only as inclusions. See **fuchsite; lepidolite.**

micaceous (mei-kae'shee-us). Composed of thin plates or scales, or, like mica, capable of being easily split into thin sheets.

micarta. A plastic similar to **bakelite.**

mica schist. Schist composed largely of mica.

Michel, Dr. Hermann (1888-). Of Vienna; author of *Die Kunstlichen Edelsteine*, 1926. *The Pocket Book for Jewelers*, 1929.

microcline (my'kroe-kline). Green, pink, pale yellow or white mineral of **feldspar** group. Tri; $KAlSi_3O_8$. H. 6-6.5; S.G. 2.5-2.6; R.I. 1.52-1.53. Only gem or ornamental variety is **amazonite.**

micrometer. A device for obtaining accurate linear measurements of small distances. Usually reads

to .001 inch or .01 millimeter. The most universally used is the *screw micrometer*, in which the motion is measured by means of an accurate threaded plunger working in a tapped hole. Other types are the *dial micrometer*, in which motion is transmitted through a gear train to a pointer revolving around a dial, and the *optical micrometer* in which measurements are made directly through a lens system which magnifies the object to be measured Shipley, Jr.).

micrometer caliper. Less correctly millimeter caliper gauge. See **caliper; gauge.**

"microphotograph." Incorrect designation for **photomicrograph.**

microscope. An optical instrument which affords high magnification of minute objects such as inclusions in gems. A *monocular microscope* employs a single eye-piece or ocular. A *binocular microscope* is equipped with two oculars. In the Greenough type, two complete lens systems are used, giving true stereoscopic vision. A *polarizing microscope* is equipped with polarizing attachments providing polarized light, and is a combination of microscope and polariscope. With proper attachments and accessories, it may be used to determine **optic character.** See also **polariscope.** A *petrographic* or *petrological microscope* is a polarizing microscope especially designed for use with prepared **thin sections** of minerals or rocks. A *gemological* or *gem-testing microscope* is a polarizing microscope equipped with universal immersion stage and other accessories, the entire equipment especially designed for the testing of fashioned gemstones, particularly those set in mountings. A *pearl testing microscope* is a microscope equipped with special accessories for pearl identification especially with an **endoscopic stage** and **a pearl illuminator.** A *pearl and gem testing microscope* is a combination of the last two microscopes, and like them is especially assembled or manufactured for the purpose by Gemological Institute of America, and by Gustave L. Herz of Vienna, Dr. Edward Gübelin of Lucerne, and others.

microscopic. Pertaining to the **microscope,** or visible only by its aid; minute.

microscopy (my-kros'ko-pi). The art of observing and investigating objects under the **microscope.**

midge stone. Same as **gnat stone.**

Midnight Star. An unusual 117-carat purple star sapphire in Morgan Collection, Am. Mus. of Natural Hist.

"Mikimoto pearls." A trade term for those particular **cultured pearls** whose formation is artificially propagated and scientifically controlled by Dr. Mikimoto, a Japanese scientist.

milk opal. A translucent, milky-appearing variety of common

opal. Rarely exhibits play of color.

milky jasper. Eppler lists as a white jasper; no other authority mentions.

milky quartz. A translucent to nearly opaque white variety of crystalline quartz. When containing small particles of gold is known as **gold quartz.**

millimeter. One thousandth of a meter (.03937 inch).

millimeter screw micrometer. A precision caliper gauge which measures the over-all dimensions of unmounted fashioned gems more accurately but less conveniently than dial gauges. See **Leveridge gauge.**

mimicry. Imitations of crystal forms of higher symmetry by those of lower grade of symmetry, usually the result of twinning.

Minas Geraes (meen'as jay-rice'). A state northeast of Rio, Brazil; highly productive of gems.

Minas Geraes emerald. Emerald from this state which is usually darker than **Bahia emerald.**

minas novas (Port.). See **pingos d'agoa.**

Minas Novas chrysoberyl. Yellowish chrysoberyl from Minas Novas district, Minas Geraes, Brazil. Usually lacking in transparency (Smith).

mineral. An inorganic substance occurring in nature with a characteristic chemical composition and usually possessng a definite crystal structure, which is sometimes expressed in external geometrical form or outlines. (Kraus)

mineralogy. The science of minerals.

mineral species. See **species.**

mineral turquoise. Term occasionally used to distinguish turquoise from odontolite.

mine run. Unassorted product of a mine, but term is also used to mean the medium or low grades of anything, such as gemstones.

mine salting. See **salting.**

minimum deviation. The position of a prism in relation to a beam of light where the beam is passing through symmetrically, and, as a corollary, with minimum deviation. By measuring the prism angle (A) and the angle of minimum deviation (D), refractive index may be determined from the formula:

$$n = \frac{\sin \frac{1}{2}\ (A+D).}{\sin \frac{1}{2}\ A}$$

misnomer. An incorrect name, often but not always misleading as to the true nature of the subject named. In this book, titles of definitions within quotation marks are misleading, or tend to be misleading, as to the actual nature or value of the subject in quotes.

mixed cut. A combination of bril-

liant cut above the girdle with usually 32 facets, sometimes more but rarely less, and often a larger and higher table, and step-cut below with the same number of facets. Often used for colored stones, especially fancy sapphires, to improve color and retain brilliancy. Variation of a mixed cut **with** an emerald-cut **crown** sometimes **used** for zircons.

mixte (French). A semigenuine doublet.

Mn. Abbr. for manganese.

Mo. Abbr. for the element molybdenum.

mocha pebble. Same as **mocha stone.**

mocha stone. (1) White, gray or yellowish, translucent cryptocrystalline **quartz** with brown to red iron-bearing, or black manganese-bearing, **dendritic** inclusions to which can be assigned fanciful forms. (Schlossmacher) From many localities, especially the Northwest States of the U. S. A. Same as **landscape agate, tree agate,** etc., but not same as moss agate. (2) In Britain and U. S. A. distinction is rarely made, except gemologically, between mocha stone and **moss agate.** Originally named for city of Mocha; capitalized form Mocha stone is still sometimes used. Also spelled *mochastone.*

modern cut or **moderne cut** (moe-daern'). Any modification or combination of table cut, step cut and brilliant used especially in connection with diamond. Includes baguette, triangle, keystone, half moon, and others.

Moe or **Moe's gauge.** A caliper gauge with accompanying tables, for estimating weight of brilliant cut diamonds.

Mogok Stone Tract. A gem-bearing district north of Mandalay; home of the Burma ruby mines; also yielding sapphires, spinels, tourmalines, zircons, and some less important gems.

Mogul dynasty. See **Great Mogul.**

"Mohave moonstone." Translucent, lilac-tinted chalcedony from the Mohave Desert, California. (Merrill). Mohave is the Indian spelling; **Mojave** is the Spanish spelling.

Mohs scale (moze). The most commonly used scale of relative hardness of minerals—diamond 10, corundum 9, topaz 8, quartz 7, orthoclase feldspar 6, apatite 5, fluorite 4, calcite 3, gypsum 2, talc 1. Divisions are not equal, minerals representing various hardnesses having been chosen arbitrarily by the mineralogist F. Mohs. The difference between 9 and 8 is considerably greater than between the lower numbers, and between 9 and 10 is greater than between 9 and 1.

"Mojave moonstone" (moė-ha'vee).

A gray translucent chalcedony (Pough). See **Mohave moonstone.**

Mokkastein (German). Mocha stone.

moldavite (mol'da-vite). A natural glass classed by Smith as a bottle-green to brownish-green, **tektite.**

molded cameo. A cameo produced by casting in a mold such materials as ceramics, metals, glass, plastics, or sealing wax. See **Wedgwood.**

molecule. The smallest unit of a substance in which the chemical properties of that substance are entirely retained; may consist of one or more elements and therefore of more than one atom.

mollusc (mol'usk). A soft-bodied non-segmented invertebrate animal which typically possesses a hard shell. This shell may be univalve as in the snail, or bivalve, as in the oyster, cockle and mussel. Also spelled mollusk.

mollusk. An alternate approved spelling of **mollusc.**

mondogoe. Bent or folded pearls (Boutan). Probably same as **madanku.**

monel metal. An alloy of nickel (about 75%), copper (about 23.5%), and iron (about 1.5%). Sometimes used for imitations of **hematite** cameos.

money stone. A local name in Pennsylvania for **rutile** (Merrill).

Mono. Abbreviation used in this book for **monoclinic system.**

monochromatic (mon"oe-kroe-mat'ik). Having or consisting of, one color only.

monochromatic light. (1) A term commonly used to described light from a single, limited region of the spectrum, hence light of a single color (Shipley, Jr.). (2) In its strictest but seldom-used sense, light which corresponds to one wave length only.

monochromator. A device for producing monochromatic light. Usually applied to a form of spectroscope which can be adjusted to transmit light from any desired region of the spectrum, but may also be applied to any source of monochromatic light (e.g. to a sodium vapor lamp). (Shipley, Jr.).

monoclinic mineral or **stone.** Mineral or stone of the **monoclinic system.**

monoclinic system (mon"oe-klin'ik). A crystallographic system; has three axes, two of which are unequal in length but at right angles to one another, the third also of unequal length and not at right angles to the plane of the other two. See also **crystal systems.**

monocular microscope. See **microscope.**

monster pearl. Same as **paragon**

pearl.

Montana agate. A name for **mocha stone** from Montana.

"Montana jet." Obsidian, from Yellowstone Park.

Montana moss agate. So-called moss agate or **mocha stone** from Montana, the principal source of these stones in U.S.A. Principally from bed of Yellowstone River and containing manganese (pyrolusite).

"Montana ruby." (1) Pyrope or almandine garnet, although like any misnomer it may have been used for other garnets, or indeed any stone. (2) Grossularite garnet (Schlossmacher - in error).

Montana sapphire. A sapphire from Montana. Many fancy colors in addition to blue stones have been produced in this state. As a trade grade it refers to the sapphire, no matter where found, possessing a comparatively light and comparatively grayish-blue color called electric blue, or steel blue. Stones of this grade from Montana have a slightly metallic-appearing luster.

"Mont Blanc ruby." Reddish quartz.

moonstone. A term (1) correctly applied only to adularia (precious moonstone) which is a variety of **orthoclase** and to other semitransparent to translucent adularescent (milky blue) feldspars of the **albite, labradorite,** and **oligoclase** species; (2) incorrectly applied, without proper prefix, to milky or girasol varieties of chalcedony, scapolite, corundum, etc. See **adularescence; chalcedony moonstone.**

moor's head. Name for a colorless or greenish tourmaline crystal with a black termination or end. From Elba.

Moosstein (German). Moss agate.

"Mora diamond." Probably rock crystal (Merrill).

Morales Pearl. See **Oviedo Pearl.**

moralla or **morallion.** (1) Semi-crystallized material from Colombian emerald mines, similar in appearance to turquoise matrix, but green; (2) as a trade term it is sometimes used to mean any of the poorer grades of emeralds.

morganite. A light red-purple to light purplish red caesium-bearing variety of **beryl.** From Brazil, Madagascar, California. Same as rose beryl; vorobievite.

morion (moe'ri-on). Deep-black, almost opaque, smoky **quartz.**

morning dew jade. Fanciful term used by Chinese to describe a greenish jade sprinkled with glistening specks.

moro coral. Dark red, the finest color of **Japanese coral.**

moroxite (moe-rok'site). A blue to greenish-blue variety of apatite.

morphology. The science of structure or form.

mosaic agate. Brecciated Mexican agate (Merrill).

mosquito amethyst. Amethyst containing tiny scaly or platy inclusions of **goethite.**

mosquito stone. Spanish name for quartz with tiny dark inclusions. A variety of **mocha stone.**

moss. Term used for fractures or fissures in gemstones which produce the appearance of moss, as in many emeralds.

moss agate. (1) Term used generally in U.S.A. for any translucent chalcedony (cryptocrystalline quartz) containing inclusions of any color arranged in moss, fern, leaf, or tree-like patterns. Little if any distinction is being made in U. S. A. or England between it and **mocha stone.** (2) In European countries and in gemology the term moss agate is generally confined to translucent chalcedony containing green inclusions of actinolite or other green minerals arranged in the patterns mentioned above.

"moss jasper." (1) Term sometimes used synonymously with moss agate although (2) Eppler defines as moss agate almost opaque from packed inclusions. (3) A regional American name for banded pertified wood with streaks of translucent quartz found in Arizona and New Mexico.

moss opal. Milky opal with black moss-like (tree-like) inclusions.

moss stone. (1) **Crystalline quartz** containing inclusions of green, fibrous crystals, probably asbestos (Bauer - Spencer repeated by Schlossmacher). (2) Same as **moss agate,** which is cryptocrystalline quartz (Schlossmacher and others). See **Thetis hair stone.**

mossy stone. In gemology, a stone containing **moss**-like inclusions.

mother liquid or **liquor.** (1) *Gemological,* a magma, especially a deep-seated magma in which diamonds may have formed; (2) *Chemical,* the residual solution remaining after its contained substances have become crystallized or precipitated.

"mother-of-emerald." (1) Green fluorite; (2) prase.

mother-of-opal. Rock matrix containing minute disseminated specks of precious opal (Merrill).

mother-of-pearl. The iridescent lining of the shell of any pearl-bearing mollusc; usually of same color composition and general quality as the pearls produced by the particular mollusc. See **nacre.**

mother-of-pearl opal (or **agate**). Same as **cachalong.**

mother-of-ruby. Ruby matrix.

mother rock. See **matrix.**

mother's gem. Jade. Selected by

American Gem Society members as an especially appropriate gift on Mother's Day in U. S. A. See page 259.

mottled stone. One with irregularly placed spots or patches of color.

moulded cameos. See **molded cameos.**

mountain crystal. Rock crystal.

Mountain Lily topaz. Blue topaz from mine of this name in San Diego Co., Calif., in which large fine blue topaz have been found.

mountain mahogany. Reddish obsidian.

mountain stone. A Chinese name for jade.

mounted stone. (1) Stone fixed in a setting as in jewelry. See **loose stone.** (2) Stone improved in color by backing with foil or enamel or sometimes with a thin coat of dye. (Kraus and Slawson).

mounting. Trade term for that portion of a piece of jewelry in which a gem or other object is to be set or has been set. Same as **setting.**

mousseline glass (French). A thin glass, which imitates patterns in lace; called also **muslin glass** (Standard).

mouth jade. A term used synonymously with **tomb jade,** although more specifically it refers to jade which had been placed, usually together with quicksilver, in the mouths of the dead.

mucket pearl. Any **fresh-water pearl** from the **Lampsilis ligamentinus** mussel, the so-called mucket clam, a mussel of the Mississippi Valley.

mud. A lapidary's term for a mixture of silicon carbide grit and water, used as an abrasive in sawing of **colored stones,** to which mixture is added a small amount of fine clay or flour in order to obtain greater viscosity.

mud lapping. See **lapping.**

mud pearl. Pearl containing a center of mud or silt. Same as silt pearl. See **blue pearl.**

mud saw. A disk of iron, steel or copper varying in diameter from eight to fifty inches, which, when fashioning colored stones, passes through a metal container partly filled with **mud.**

mulawa. Singhalese name for the layer of clay which frequently lies just below the **illam** and which indicates the bottom of the mine.

Muller's glass. Same as **hyalite.**

multiple. The price of pearls subject to the multiple of weight. (Cattelle).

multiple pearl. Any **double pearl, triple pearl** or pearl which is formed of more than three pearls united under one nacreous coating.

muntenite. A variety of amber from Olanesti, Rumania. (English)

Titles within quotation marks are misnomers. Every unusual word or term used is defined in this book and if printed in **bold faced type** its entry should be consulted. To fully understand the definitions, read the introductory pages.

murra or **murrha.** An ornamental stone of ancient Rome, which may have been jadeite, fluor, porcelain, iridescent glass or similar substance. V. Ball believes it to be chalcedony, perhaps artificially colored.

Mursinka aquamarine. Light bluish green aquamarine from Mursinka, in Ural Mts.

Mursinka topaz. Light blue topaz from Mursinka, in Ural Mts. Same as **Siberian topaz.**

muscle pearl. Small irregular pearl found in the muscular tissue near its attachment to the shell.

muscovite. A species of the **mica** group. Common mica. Mono. H. 2-2.25; S.G. 2.7-3.1; R.I. 1.55/-1.59-1.56/1.60. **Fuchsite** is a variety. See **agalmatolite.**

museum gem collections. Collections of special note are: *U.S.A.*, Am. Mus. of Natural Hist. (includes Morgan Collection); Metropolitan Museum of Art (Bishop Collection of Jade, Egyptian jewelry, etc.); New York; Harvard Mineralogical Museum, Cambridge; New England Mus. of Natural Hist., Boston; The Academy of Natural Sciences, Philadelphia; Chicago Natural History Museum (formerly Field Mus. of Nat. History); U. S. Nat'l. Mus. (Smithsonian Institution), Washington. *England.* British Museum (Natural History), London; Geological Museum, South Kensington, London. *France.* Jardin des Plantes (including a Morgan Collection), Paris. *Germany.* Grünes Gewölbes, Dresden.

muslin glass. Same as **mousseline.**

mussel. A variety of bivalve mollusc of which certain varieties of both fresh and salt water produce pearls. See **Mytilidae; Unio.**

mussel-egg. Name given to freshwater pearls by Tennesseans.

mussel pearl. Pearl from a true salt-water mussel **Mytilus** as distinguished from pearl from so-called hammer mussel **Malleus.** Usually dark and possessing little, if any, luster, although Boutan mentions that it can sometimes be classed as a bluish **seed pearl.** See **Mytilus pearl.**

mussite. Same as **diopside.**

mutton fat jade. Descriptive term used by Chinese for a clear white nephrite resembling mutton fat.

"**mutzchen diamonds.**" Rock crystal.

Muzo emerald. Colombian emerald from the ancient Muzo mine, about 75 miles N.N.W. of Bogota, which produces the finest known emeralds.

mya yay. In Burma, a trade name for the most precious variety of jadeite, translucent with a uniform grass-green color.

myrickite. (1) A name used for whitish or greyish chalcedony,

opal, or massive quartz marked by or intergrown with pink or reddish inclusions of cinnabar, the color of which tends to become brownish. The opal variety is also known as **opalite.** From California, Arizona, Nevada, Oregon, and Washington. (2) English originally listed it as a variety of chalcedony, showing red spots on a gray ground, resembling **St. Stephen's stone.** See page 257.

Mytilidae. The family of sea mussels gemologically important only as producers of seed pearls. See **Mytilus pearls.**

Mytilus pearls. Pearls from family **Mytilidae.** Rarely lustrous, and if not, are known as "druggists' pearls."

N

n. In optics and mineralogy, the symbol for refractive index. Same as **R.I.** Also often used to indicate the **mean refractive index.**

Na. Abbr. for the element sodium.

nácar (Span.). Nacre.

nacker. Same as **nacre.**

nacre. The iridescent substance of which mother-of-pearl and **true pearl** consists, principally **aragonite.**

nacreous (nae'kree-us). Possessing a coating of nacre, or the appearance thereof.

nacrescope. A pearl illuminator. An instrument containing a strong light through which the nature of the nucleus of a pearl can sometimes be observed. Differs from **pearloscope** in that the effect of the passage of light through the whole pearl is observed. Can be used as an accessory of the gemological microscope. See **pearl illuminator; pearloscope.**

N. A. G. Abbr. for National Association of Goldsmiths (of Great Britain and Ireland), the commercial association of the British jewelry industry.

naoratna or **nararatna.** The nine-gem jewel of the Hindus which, like the **panchratna,** was a ceremonial offering to a Hindu temple.

napoleonite. An obsolete synonym of orthoclase.

Nassak Diamond. A famous Indian diamond, once in a native temple. Weighed 90 m. c. when brought to England. It has been twice recut and is now a 47.24 m .c. emerald cut and belongs to an American diamond importer.

Nassau pearl. A name for **conch pearl.**

natal stones. Same as **birthstones.**

National Gemological Laboratories. Gemological laboratories which serve an entire nation or are the only laboratories devoted exclusively to gemological activities in that nation. *England,* London Chamber of Commerce, 55 Hatton Garden, London, E. C. 1; *France,* Chambre Syndicale des Pierres Precieuses, 18 Rue de Provence, Paris; *India,* Moti Jhaverno Dharamno Kanto, Bombay; *Switzerland,* Schweizerischen Gemologischen Gesellshaft, c/o Dr. E. Gübelin, C.G.,

Schweizerhofquai, 1, Lucerne; *North America*, Gemological Institute of America, 541 So. Alexandria, Los Angeles, 5, (research and identification); 5 East 47th St., New York 17, (identification).

natrolite. A colorless or white, also reddish yellowish to greenish mineral sometimes fashioned into small ornaments, writing utensils, etc. in Germany, especially that combining tones of yellow from southern Württemberg. Ortho. $Na_2Al_2Si_3O_{10}$. H. 5-5.5; S.G. 2.2-2.3; R.I. 1.48/1.49; Bi. 0.013.

natural glass. Vitreous amorphous substances occurring in nature which have apparently solidified too quickly to crystallize. See **obsidian; tektite.**

natural pearl. A pearl which originates naturally in a mollusc as distinguished from a cultured pearl or imitation pearl.

natural stone. A stone which occurs in nature; as distinguished from a man-made substitute such as reconstructed, synthetic, assembled, or imitation stone.

navette (cut) (nav-vet'). French meaning little boat. Same as *marquise*. In U.S.A. *navette* or *boat shape* are names preferred in colored stone trade, *marquise* in diamond trade. Eppler indicates that navette and marquise are used synonymously in German trade.

needles. Slender needle-like crystals. Occur often as inclusions of rutile, actinolite, etc., in some gemstones. See also **fiber.**

needle-spar. (Obsolete). Aragonite.

needle stone. Sagenitic quartz.

nefretita. (Span.) Nephrite. (Eppler)

negative crystal. (1) In a mineral or cut gemstone, an inclusion (of air, gas or liquid) having the form of a crystal. (2) Same as **negative mineral.**

negative mineral or **stone.** A crystal exhibiting negative double refraction. See also **positive mineral** or **stone; optic sign.**

nephelite or **nepheline.** (nef'e-lite). A rock-forming mineral. Hex. $NaAlSiO_4$. Elaeolite is variously listed as another name for it or for a translucent gray, bright green, or brown to brownish red variety, of which the more desirable green is sometimes cut as a gem or ornamental stone. Usually full of small inclusions. Elaeolite often produces a cat's-eye or girasol effect when cut cabochon and has H. 5.5-6 S.G. 2.6. From Norway, Russia, Arkansas, and other sources.

nephrita (Span.). Nephrite.

nephrite (nef'rite). Gemologically one of the two species of jade and the least rare. Mineralogically an amphibole close to **actinolite.** Occurs in tough compact masses of either foliated or matted crystal fibers. Semi-transparent to opaque; usually spinach

green, also gray, brown, reddish, bluish, lavender, and rarely yellow or black. Mono. Ca $(MgFe)_2$ $(SiO_3)_4$; H. 6-6½; S.G. 2.9-3; R.I. 1.60/1.63-1.61/1.64. From China, Siberia, New Zealand, Alaska, Wyoming and other sources. (R. Webster lists S.G. 3-3.3; R.I. 1.60/1.63-1.62/1.65.)

nephritoid. (1) An obsolete term for nephrite composed of parallel fibrous crystals in contrast to other nephrite of matted fibrous crystals (English). (2) In the various editions of **Bauer,** the term *nephritoids* is used synonymously with jade, to include nephrite and chloromelanite.

"Nerchinsk aquamarine." Aquamarine-colored topaz from Nerchinsk, Siberia.

Nerchinsk beryl. Aquamarine, chrysolite beryl and morganite from Nerchinsk district, Transbaikal, Siberia.

Nerchinsk rubellite. Rubellite from near Nerchinsk in Transbaikal, Siberia.

neurita (Span.). Nephrite. (Eppler)

neutral gray. Gray which is devoid of any tinge of any hue. It may be of any **tone** from almost white to almost black.

"Nevada diamond." Obsidian artificially decolorized.

"Nevada turquoise." Variscite.

Nevada turquoise. Turquoise from Nevada, the state of U.S.A. which produces the greatest quantity of this gemstone.

New Caledonia jade. Nephrite from Wen Island, New Caledonia.

New Caledonia pearl. **True pearl** from the *Meleagrina margaritifera* of New Caledonia. The finest are colored.

"New Guinea cat's-eye." Same as **"shell cat's-eye."**

New Guinea jade. Nephrite from Humboldt Bay district, New Guinea.

New Mine sapphire. (1) A trade term applied to intense blue sapphire of velvety appearance during several years after the discovery, in 1926, of these stones at Bo Ploi, Siam. (2) A term which was also for a time used for **Montana sapphires,** mined by the New Mine Sapphire Syndicate, which were not of as fine blue as **Yogo sapphires.**

new rock. An abbreviation of **new rock turquoise.**

new rock turquoise. (1) Old Persian term for inferior turquoise or for turquoise matrix. (2) Term sometimes used in America for turquoise which does not retain its color very well. (3) A French and German term for **odontolite.**

Newton scale. A type of specific gravity scale.

"New Zealand greenstone." Serpentine; although originally the

term meant nephrite.

New Zealand jade. Same as **nephrite**; from New Zealand.

Niagara spar. Term applied locally in Niagara Falls, N. Y., and vicinity, to fibrous gypsum imported through Canada from England. (Kraus and Slawson) Fibrous calcite, originally found in veins in limestone near Niagara Falls, Ont., was perhaps the original satin spar. See **satin spar.**

"Nichol." A frequent mis-spelling of **Nicol.**

nicks. Very small fractures along the girdle or facet junction of a cut stone; more common in synthetic or glass reproductions than in the natural stones. See also **pit.**

Nicol or Nichol. In microscopy and mineralogy, a word almost always used to mean **Nicol prism.** The term *between crossed Nicols* refers to the position of two Nicol prisms which are set so that the second does not transmit the light transmitted by the first, unless a doubly refractive substance be inserted between them. Some authorities capitalize the word when used in this manner; others do not.

nicolo (nik'oe-loe). Onyx with a black or brown base and a bluish-white top layer.

Nicol prism. (nik'ul) A calcite prism sawed through and recemented in such a fashion as to pass only the extraordinary ray of the two doubly refracted rays, thus producing polarized light. See **polarizing prism.**

niggerhead pearl. A **fresh-water pearl** from *Quadrula ebena*, a mussel of the Mississippi Valley, popularly known as the niggerhead "clam."

"night emerald." Same as **"evening emerald."**

nigrine. A black variety of iron-rich rutile which when polished resembles black diamond in brilliancy.

nilasa. Burmese term for mixed, inferior sapphires.

nilion. Name used by the Greeks for a stone thought to have been (1) grayish to honey-brown jasper or (2) nephrite.

nilt. Burmese term for large sapphires.

nimelai pearl. Ceylonese trade grade for a nose-pearl, perfect skinned and pear or egg-shaped (Kunz).

"nixonoid." A type of celluloid.

"nobbies." A local Australian name for a characteristic form of black opal. They are probably pseudomorphous.

noble metals. Same as **precious metals.**

noble stone. Approximately same as precious stone. Noble opal is precious opal; noble topaz is

precious topaz, etc. See **Edelstein.**

nodule (nod'ule). Small shapeless knot or lump of mineral or rock sometimes enclosing a foreign body in the center.

nomenclature. The system of names peculiar to any science, industry or trade.

noncrystalline. Same as **amorphous.**

noodling. Local Australian term meaning to search the opal mine tailings or dumps for gem minerals.

Nophek. Fourth stone in the Breastplate of the High Priest. Translated as "carbunclus" and probably a garnet. Stone engraved "Judah."

norbide. An artificial abrasive used in fashioning gems. B_4C.

Nordica Pearl. A fine 175 gr. **abalone pearl** of greenish hue; part of the famous necklace of **colored pearls** which belonged to Madame Nordica.

normal. A word used in geometry to mean perpendicular. The normal is the direction perpendicular to (at right angles to) the surface of an object, such as the table of a stone. A direction or line which is said to be normal to such a table is perpendicular to it.

Norwegian amber. **Baltic amber,** from the coast of Norway.

noselite or **nosean.** One of the sodalite group of minerals, which group includes lazurite. Properties closely resemble those of haüynite, sodalite, and **lazurite.**

noumeite. Same as **garnierite.**

novaculite. A fine-grained siliceous rock used for whetstones. Found near Hot Springs, Ark., and sometimes fashioned as a **curio stone.**

nugget. Rounded, irregular lump, especially of a metal.

Numeite or **Numeaite.** German name for **noumeite.**

Nunkirchen jasper. Light grey to yellow or brownish red jasper from Nunkirchen, near **Idar-Oberstein,** Germany. Dyed and sold as **"Swiss lapis."**

Titles within **quotation marks** are misnomers. Every unusual word or term used is defined in this book and if printed in **bold faced type** its entry should be consulted. To fully understand the definitions, read the introductory pages.

O

O. Abbreviation for the element oxygen.

objective. The system of lenses in a microscope which furnishes the initial magnification of the gem stone or other object. The image formed by the objective is picked up and further magnified by the **ocular.**

oblique system. Same as **monoclinic system.**

oblong hexagon cut. See **hexagon cut.**

obsidian (ob-sid'ee-an). Natural volcanic glass; an ornamental stone, rarely cut as a gem. Many early civilizations fashioned black obsidian utensils and sculpture. Solidified out of lava, it is a rock, hence has but fairly constant properties. Black to gray, yellowish, reddish or greenish. Amorphous; H. 5-5½; S.G. 2.3-2.6; R.I. 1.48-1.60. Chemical composition, variable. See **natural glass; tektite.**

"obsidian cat's-eye." Obsidian possessing **schiller.** Never chatoyant.

occidental. A prefix used (1) sometimes literally, i.e., to distinguish gemstones found in other parts of the world from those found in the Orient; (2) often to indicate inferior varieties or qualities as distinguished from the better qualities; and (3) frequently in misrepresenting a substitute as being the genuine gem it resembles; for example, **"occidental turquoise."** See also **oriental.**

occidental agate. Agate poorly marked and not very translucent (Bauer).

occidental amethyst (obsolete). Genuine amethyst as distinguished from **"oriental amethyst."**

occidental carnelian. Rarely used term for all but quite translucent carnelian. See **oriental carnelian.**

occidental cat's-eye. Quartz cat's-eye. See **oriental cat's-eye.**

occidental chalcedony. Rarely used term for all but quite translucent white or gray chalcedony. See **oriental chalcedony.**

"occidental diamond." Rock crystal (quartz).

occidental pearl. Defined by Schlossmacher as any pearl from Atlantic or Pacific Coast of Central America and apparently also Mexico, Venezuela, Colombia, Ecuador, and Peru. Described

by him as larger, but less well shaped and duller than **oriental pearl.** However, the term is not used in American trade which classifies pearls of this general description as **Venezuelan pearl,** and of other description as **La Paz pearl.** See also **oriental pearl.**

"occidental topaz." Citrine as distinguished from **"oriental topaz"** and from **precious topaz.**

"occidental turquoise." Odontolite.

occurrence. The manner in which gem-minerals are found in the earth's crust.

ocean-spray. Satin spar (gypsum).

ocherous or **ochreous** (oe'ker-us). Earthy and usually red, yellow, or brown in color.

octahedral (ok"ta-hee'dral). Referring to or resembling an octahedron.

octahedrite. Same as **anatase.**

octahedron (ok"ta-hee'dron). A crystal form in the cubic system having the appearance of two four-sided pyramids united base to base.

octavo. A Brazilian gem weight, 17½ carats.

ocular. The system of lenses comprising the eye-piece or eye-lens of an instrument, as of a **microscope.**

oculus mundi (Latin). Eye of the World. A name for **hydrophane** which exhibits play of color.

oddumuttu or **ottumuttu.** A Ceylonese trade grade (meaning shell pearl) for an attached pearl or nacreous excrescence on the outside of the shell (Kunz). Elsewhere Kunz includes both **blister pearl** and **baroque** in this trade grade.

Odem. First stone in the Breastplate of the High Priest; probably a carnelian, although Josephus translates as sardonyx. Engraved with name of Reuben. (Kunz).

odontolite (oe-don'toe-lite). Bluish fossil bone, or tooth (tusk). Naturally colored blue by phosphates of iron and rarely, green, by copper. H. about 5; S.G. 3-3.5; sometimes as low as 2.4. Same as **bone turquoise.**

odor test. One made by heating, breathing upon, rubbing, or striking a mineral. Rarely of value in gem identification except in distinguishing amber from its substitutes.

oeil de boeuf (Fr., "bull's-eye" or "ox-eye"). **Labradorite.**

"oil pearl." Same as **Antilles pearl.**

oil stones (So. African). The agates found with alluvial diamonds.

oisanite. Same as **delphinite.**

ojo de gato (Span.). Cat's-eye.

old English cut. Same as **single cut.**

old mine cut. A term used for an old style of the 58 facet **bril-**

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liant which possessed a cushion-shaped girdle and a crown which was much higher than in the present style.

old rock. An abbreviation of **old rock turquoise.**

old rock turquoise. (1) Old Persian term for fine quality turquoise; (2) French and German term for turquoise as distinguished from odontolite; (3) term used in American Indian country of Arizona and New Mexico for compact deep-blue turquoise which holds its color better than **new rock turquoise.**

oligoclase (ol'i-go-klase). A mineral of the plagioclase series of the feldspar group. Its gem varieties include **sunstone, oligoclase moonstone,** and unusual or occasional specimens such as colorless to pale bluish stones from North Carolina which are sometimes cut for collectors. Tri. H. 5-6; S.G. 2.6-2.7; R.I. 1.54/1.55.

oligoclase moonstone. A white to greyish adularescent variety of oligoclase. From North Carolina. (Schlossmacher).

olive. A popular trade name for a bead elongated parallel to its drill hole and hence shaped like an olive, but often much more slender. May be faceted or unfaceted.

olivet. African trade name for coral, imitation pearl, or a tube-shaped white glass bead, prized by natives.

"olivine" or **"olivene."** Incorrect jewelry trade name for **demantoid.** See **olivine.**

olivine (ol'iv een or ol'i-vin). (1) A name which, although sometimes applied to a series of minerals (more commonly known as the chrysolite series), is more specifically and generally applied to a mineral species also more commonly known by mineralogists as **chrysolite** and by gemologists as **peridot.** See also **"olivine."** (2) A name sometimes applied, gemologically, to the dark olive-green to brownish variety of that species.

once. The square of the weight of a pearl, used in calculating the value. Also known as the "dollar base." See **base price.**

onegite. Light amethyst-colored **sagenitic quartz.** From Lake Onega, north of Leningrad.

"one-year pearl." A term which has been used for a **cultured pearl** upon which exceptionally few layers of **nacre** have been deposited on the mother-of-pearl bead, regardless of length of time the bead remained in the mollusc. Perhaps most cultured pearls are removed from mollusc within one year, but the number of layers may be much greater and their quality quite superior to others and may be sold as fifteen-year pearls, although the Japanese pearl-bear-

ing mollusc does not live that long. Many beads are left in the mollusc for several years, but rarely for more than four.

onicolo. Same as **nicolo.**

onychite. An ornamental alabaster or calcite (stalagmite) with yellow or brown veins, carved by the ancients into vases, etc. (Standard).

"onyx." Commonly used, but nevertheless incorrect name for (1) solid-colored chalcedony. See **"black onyx"; "green onyx."** (2) Marble and similar minerals used in ornamental and utilitarian objects, an even more confusing usage. See **"black onyx"; "green onyx"; onyx; onyx marble.**

onyx. (1) One of the many varieties of **chalcedony.** Same as **banded agate** except that the alternately colored bands of onyx are always straight and parallel. Stones most common are black and white or gray, black and red to brownish red, white and red to brownish red, but those banded only with grays or gray and white are more specifically known as onyx agate. Stone cameos are carved principally from onyx. The term onyx used except as a qualifying adjective for other than parallel banded multi-colored chalcedony is incorrect. See **"onyx"; carnelian onyx; sardonyx.** (2) Qualifying adjective meaning parallel banded as in the term **onyx marble.** See page 259.

onyx agate. Banded agate with straight parallel layers of differing tones of gray. It is incorrect to use *onyx agate* as a synonym of *onyx.* See **onyx.**

"onyx alabaster." Misnomer for Parallel-banded calcite. See **onyx marble.**

onyx marble. A translucent compact variety of calcite generally deposited as stalagmites; with parallel bands usually irregular, curved or bent. Colors usually white, often grayish, brownish or reddish. Dyes easily and is marketed in several natural and dyed colors in many parts of the world under incorrect names, including "onyx," "Brazilian onyx," "Mexican onyx," "Mexican jade," Gibraltar stone, "Egyptian alabaster," and "oriental alabaster." The alabaster of the ancient world. See P. 259.

onyx obsidian. Parallel-banded obsidian.

onyx opal. Common opal with straight parallel markings.

oolitic (oe″ue-lit′ik). Containing or consisting of small rounded particles, suggesting fish roe, a texture possessed by some minerals.

opacity (oe-pas′i-ti). State of being **opaque.**

opaco (Span.). Opaque.

opal (oe′pal). A non-crystalline,

colorless, white, yellow, brown, pink, red, green, blue, or black, gem mineral; solidified from gelatinous silica, deposited in cracks and cavities from aqueous solution (Kraus). Transparent to nearly opaque colors usually pale. Most varieties of *precious opal* exhibit a **play of color** caused by a structure of very thin layers of slightly differing refractive indices and sometimes probably by minute cracks. Except Australian and fire opal, usually cut cabochon. *Common opal* is of little value and sometimes earthy. Amorphous; SiO_2 plus H_2O (water), 1 to 21% (usually 6 to 10% in precious opal). H. 5-6½; S.G. 2.-2.20; R.I. 1.38-1.60 (precious opal 1.44-1.47). Source of precious opal: Australia, Mexico, Hungary, Nevada, Idaho, etc. See **Australian opal; Mexican opal; fire opal.**

opala (Port.). Opal.

opal-agate. Banded opal having alternate layers of opal and chalcedony.

opal cat's-eye. Rarest variety of **harlequin opal.** Exhibits chatoyant line, usually green, said by Eppler to result from included fibers of crocidolite.

opal dirt. Opal-bearing layers of soft clay-like material, or clayey layers of soft material, or clayey sand, underlying sandstone in most Australian deposits.

opal doublets. More or less thin, usually flat layers or films of precious opal cemented onto some substance, usually of same appearance; liable to crack and disintegrate more easily than thicker sections.

opalescence (oe′′pal-es′ens). The milky or pearly appearance of some common opal. Not to be confused with the **play of color,** exhibited by precious opal. See also **girasol.**

opalescent cat's-eye. A confusing term sometimes applied to **chrysoberyl cat's-eye.**

"opalescent chrysolite." (1) Greenish chrysoberyl or corundum, exhibiting opalescence. (2) Chrysoberyl cat's-eye (a rare usage).

opalescent sapphire. Girasol sapphire.

"opal glass." Milky-white, sometimes yellowish variation of **crown glass** containing additions of fluorine, etc. S.G. 2.07 and up; R.I. 1.44. Used for imitations of some translucent gems and rarely, when etched with acid, for pearls, but not for precious opal. See also **fire opal glass.**

opaline (oe′pal-in or -ine). (1) Opal matrix; (2) pale blue to bluish-white opalescent or girasol corundum; (3) a brecciated impure opal replacement of serpentine (English).

opaline feldspar. Labradorite.

opalite. Term used for impure,

colored varieties of common opal. See also **myrickite.**

opalized. Converted into opal.

opalized wood. Fossilized substance in which common opal, or more rarely, precious opal, has replaced wood. A variety of **silicified wood.**

opal jasper. Same as **jaspopal.**

opal matrix. Opal with portions of matrix included in the fashioned gem. See **opaline.**

opal mother. A dark opal matrix from Hungary.

opalo de fuego (Spanish). Fire opal.

"opal onyx." Misnomer for onyx opal.

opal pipe. Australian term for any long narrow cavity filled by opal.

opaque. Transmitting no light; opposite of **transparent.**

operculum (Latin). See **"shell cat's-eye."**

ophites. Serpentine marble, porphyry or talc, valued by the Egyptians. (Pliny)

ophthalmius. A medieval name for opal.

optical anomaly. An irregularity in optical properties or unusual phenomenon such as **anomalous double refraction** in a diamond or other singly refractive mineral. Observable in most synthetic spinel, but rarely seen in a genuine spinel. See **strain.**

optical calcite. Colorless transparent calcite which, because of its unusually high birefringence is used in the polarizing microscope and the **dichroscope.**

optical character. Same as **optic character.**

optically negative (stone). See **optic sign.**

optically positive (stone). See **optic sign.**

optical micrometer. See **micrometer.**

optical phenomenon or **phenomena.** See **phenomenon.**

optical properties. The effects of a substance upon light. **Refractive index** (R.I.), **double refraction,** (and its strength, **birefringence**), **dispersion, pleochroism** and **color** are gemologically the most important optical properties.

optical system. A group of lenses so arranged that the desired optical result is secured.

optic axes. Plural of **optic axis.**

optic axial angle. The acute angle between the two **optic axes** of a **biaxial** mineral. Usually given as 2V, which is the apparent value with the mineral not immersed.

optic axis. In any anisotropic (doubly refractive) mineral, a direction in which no double refraction occurs.

optic character. Refers generally to the optical properties of a

gemstone, and especially to the number and position of optic axes, and the type of double refraction. (Shipley, Jr.). See **uniaxial, biaxial, optic sign.**

optics. The division of physics which covers the behavior of light.

optic sign. The type of double refraction in a mineral. In *uniaxial minerals* the material is positive when the extraordinary ray has a higher refractive index than the ordinary ray, negative when the ordinary ray has the greater index. In *biaxial minerals*, which have three basic optical directions, the refractive index of the intermediate or beta ray is the criterion; if its R.I. is nearer that of the low or alpha ray, it is said to be a *positive mineral* or *stone;* if it is nearer the high or gamma ray, it is said to be a *negative mineral* or *stone.*

orange. The **hue** midway between red and yellow; yellow-red.

orange-brown. In **color nomenclature system** of North American gemology, the color approximately midway between (a) vivid orange and (b) the **tone** and intensity of brown which is almost black. Same as **brown-orange.**

orange-red. In North American gemology the **hue** midway between orange and red. Same as **red-orange.**

"orange topaz." Same as **"Spanish topaz."**

orange-yellow. In North American gemology the hue midway between orange and yellow. Same as **yellow-orange.**

orangy. A coined word, used in North American gemology to mean more nearly orange than any other hue, just as reddish means more nearly red than any other hue.

orangy brown. In North American gemology the color approximately midway between (a) orange-brown and (b) the tone and intensity of brown which is almost black. See **orangy.**

orangy red. In North American gemology the **hue** midway between orange-yellow and red. More red than yellow.

orangy yellow. In North American gemology the **hue** midway between orange-yellow and yellow. More yellow than orange.

orbicular. Round, circular. *Geology:* Containing minerals crystallized in rounded bodies with radial or concentric groups.

orbicular jasper. Jasper containing round or spherical inclusions, sprinkled or spotted here and there, usually of contrasting color to the body of the stone.

ordinary ray. In **uniaxial stones,** that ray of light which, like any ray in an isotropic stone, travels

with the same velocity in any direction in the stone. See **extraordinary ray.**

ordinary refractive index. The R.I. of the **ordinary ray.**

oregonite. Kinradite jasper. See page 259.

"Oregon jade." (1) European misnomer for green jasper. (2) Misnomer for massive **grossularite** garnet found in Oregon, and indeed for almost any translucent to opaque green stone found in Oregon or California.

"Oregon moonstone." Same as **"chalcedony moonstone."**

organic. Belonging to the animal or vegetable kingdoms.

organic gem materials. Naturally occurring substances whose origin is wholly or partly organic such as pearl, amber, coral and jet.

orient. The minute **play of color** on, and just below the surface of, nacreous pearl. May be predominantly one color, as in **rosé pearl.**

"orienta pearl." An importer's trade name used first for **imitation pearl** and later for **cultured pearl.**

oriental. Pertaining to the Orient, hence technically applicable only to gem materials originating there, but in general used as a trade prefix as (1) sometimes used to stress the genuineness, as **oriental turquoise;** (2) often used to indicate the finer varieties of gems in more or less the same manner that the prefix *precious* or *noble* is used, as **oriental chalcedony;** and (3) as misnomer for fancy sapphires which were formerly described as **"oriental amethyst,"** "oriental emerald," etc.

oriental agate. Well-marked transluscent agate. See **occidental agate.**

"oriental alabaster." Banded calcite or onyx marble. The alabaster of the ancients.

"oriental almandine." Purple-red sapphire.

"oriental amethyst." Violet to purple sapphire.

"oriental aquamarine." Pale bluish-green to greenish-blue corundum.

oriental baroque. Trade term for salt-water pearl of irregular form as distinguished from the fresh-water **slug** (pearl) which is also a **baroque.**

oriental carnelian. Deep bright red translucent carnelian.

"oriental cat's-eye." Girasol sapphire.

oriental cat's-eye. Same as **chrysoberyl cat's-eye.**

oriental chalcedony. Fine translucent gray or white chalcedony. The latter when cut cabochon is same as "chalcedony moonstone."

"oriental chrysoberyl." Yellowish-

green sapphire.

"oriental chrysolite." Greenish-yellow chrysoberyl or sapphire.

"oriental emerald." Green sapphire.

oriental garnet. **Almandine.**

oriental girasol. Girasol sapphire.

"oriental hyacinth." Orange-red sapphire.

oriental jasper. Bloodstone.

oriental lapis. Lapis lazuli. See page 259.

"oriental moonstone." Girasol corundum. See **oriental moonstone.**

oriental moonstone. Genuine moonstone as distinguished from "chalcedony moonstone."

"oriental onyx." Banded, mottled, or clouded **travertine.**

oriental opal. (1) Precious opal; (2) (obsolete), Hungarian opal formerly merchandised through oriental markets.

oriental pearl. A trade name applied (1) broadly, to any naturally occurring **Meleagrina pearl,** and therefore not to cultured pearls, fresh-water pearl, abalone pearl, or mussel pearl. (2) More specifically, to such pearls fished in the Orient only, although this usage is not general, since many pearls fished in Africa and elsewhere are sold in India and are thereafter indistinguishable from those fished in the Orient proper.

"oriental peridot." Olive-green sapphire.

oriental ruby. A trade term (1) recognized by B.I.B.O.A. as meaning ruby from Burma only and so used by many American jewelers; (2) sometimes used to distinguish genuine from substitutes such as **"spinel ruby."**

oriental sapphire. American trade term for royal (slightly violet-tinted) blue sapphire. See **Burma sapphire.**

"oriental sunstone." Reddish or yellowish girasol corundum.

oriental sunstone (obsolete). Same as oriental girasol.

"oriental synthetic alexandrite." Same as **"synthetic alexandrite."**

"oriental topaz." Yellow corundum.

oriental turquoise. Genuine turquoise as distinguished from substitutes.

oriental vermeille. Red-brown corundum.

oriented stone. A stone so fashioned as to place the optic axis in a predetermined position, as for instance, in asteriated stones which should be so oriented as to place the axis normal to the top surface in order to achieve the best star. Most rubies should be cut with the axis normal to the table in order to exhibit the best color; most tourmalines with axis parallel to the table.

Orleans pastes. Reputedly fine imitations of gems in glass or enamel made about 1700 by a

chemist, Homberg, who duplicated the collection, mostly intaglios, and cameos, of the Duke of Orleans, Regent of France. See also **Tassie paste.**

Orloff Diamond. Also Orlov or Orlow. One of the most famous of Indian diamonds, once given by Prince Orlov to Catherine the Great and now in Treasury of U.S.S.R. Weight 199.6 m.c. See **Great Mogul Diamond.**

ormer. Same as **abalone.**

ornamental stone. A gemological classification which includes both those stones which have more or less beauty but which because they are insufficiently durable or beautiful or very easily obtained, are frequently fashioned into ornamental objects such as figures, ash trays, etc., and those which, when set in jewelry, are rarely mounted in gold or platinum; examples, **agate, onyx marble, rhodonite, rose quartz.** See **curio stone, decorative stone, gemstone, precious stone.**

orthite. Same as **allanite.**

ortho. Abbreviation used in this book for **orthorhombic system.**

orthoclase. A species of the feldspar group of which **adularia moonstone** is a variety, and of which other unusual transparent to translucent varieties, including **sanidine,** are sometimes cut for collectors. Mono. $KAlSi_3O_8$; H. 6-6.5; S.G. 2.56; R.I. 1.52/1.53-1.53/1.54.

orthorhombic mineral or **stone.** Mineral or stone of the **orthorhombic system.**

orthorhombic system (ore″thoe-rom′bik). A crystallographic system; has three axes of unequal length, each perpendicular to the plane of the other two axes. See also **crystal systems.**

orthose. (1) Yellow orthoclase, sometimes yielding moonstone; (2) an obsolete name for the entire feldspar group of minerals.

oscillatory twinning. Repeated twinning in which the **lamellae** are in alternately reversed positions.

osseous amber (os′se-us). Same as **bone amber.**

Ostrea or **Ostrea edulis** (os′tree-a). The common edible oyster.

Ostridae. A family of bivalves which includes **Ostrea.**

ouachita stone. Same as **novaculite.**

oulopholite. A curio variety of gypsum found in the form of rosettes, flowers, vines, etc., in Mammoth Cave, Ky.

ounce pearl. (1) A low grade of pearl sold by the ounce. (2) A European name for seed pearl.

ouvarovite. Same as **uvarovite.**

oval cut. A slender flat, barrel-shaped stone covered with small triangular facets. Used for beads. See page 259.

over-bleached pearl. Pearl which

has been harmed by bleaching. See **bleached pearl.**

overtone (of pearl). A light tone of blue, green, yellow or orange which is seen in some **white pearls** and **cream pearls** as a tint superimposed on the body color. Possibly is an **orient,** a minute play of color caused by interference of light between scales on layers of nacre somewhat below the surface. More likely the tint is that of some minor constituent of the particular pearl, as it is usually characteristic of most pearls from a particular locality. Sometimes but one overtone is present; sometimes a rosé tint is also present; but the latter, which is definitely an orient, is more nearly on the surface. A blue overtone and rosé orient produces a purplish tint. See **fancy pearl.**

Oviedo Pearl. A 26-carat pearl purchased in Panama about 1520 at "650 times its weight in fine gold." Probably the same as the Morâles or Pizarro Pearl. Thought to have been in Austrian crown before seizure of Austria by Hitler.

ovo doema. Brazilian term for water-worn quartz crystals (Pough).

owl-eye agate. An eye agate with only two "eyes," and those resembling the eyes of an owl.

ox-blood coral. Dark, rich, deep-red coral; very desirable.

oxeye. Labradorite with dark reddish change of color.

oxeye agate. An eye agate with only two "eyes," and those resembling the eyes of an ox in coloring. Same as **owl-eye agate.**

oxidation. A chemical union with oxygen.

oxide (ox′side or -sid). A compound of the element oxygen with another element or elements.

oyster pearl. A concretion found in common edible oyster (Ostrea edulis). Generally black, purple, or with a mixture of black and white, or purple and white. Almost invariably devoid of nacreous luster, possessing neither beauty nor value and hence not a **true pearl.**

ozarkite. White massive **thomsonite** from Arkansas.

P

P. Abbr. for phosphorus.

paar. (Ceylonese). The rock or hard-bottom oyster bed on Ceylon coast.

padmaradschah. Same as **padparadsha.**

padparadscha (pad″par-ad′sha). A rare light orangy, yellow to orange, variety of sapphire, more often encountered as synthetic sapphires of those colors.

pagoda. A coin used in India in the days of Tavernier. Value 8 shillings British.

pagoda stone. Same as **agalmatolite.** Also Chinese limestone, sections of which contain fossils arranged in pagoda-like designs of no gemological interest. See page 259.

painted stone. See **coated stone.**

Pai Yü. Chinese name for either white jadeite or white nephrite. Alternate spelling of Pao Yü.

Pala beryl, kunzite or **tourmaline.** Stones from Pala district of San Diego Co., Calif., many of fine quality.

Palau pearl. Cultured pearl from the island of Palau in the Carolines. Cultured in *Meleagrina margaritifera* mollusc; lower in average S.G. (about 2.73-2.75) than ordinary **cultured pearl**; possesses less greenish tint or overtone.

pale. In the color nomenclature system of North American gemology a tone approximately the same as very light. Very pale is still lighter.

palladium (pal-lae′di-um) One of the **platinum metals.**

pampel. Same as **pampille.**

pampille (cut). A drop-shape closely related to the briolette but with circular (or polygonal) cross-section and usually more elongated. Covered with rows of facets of differing shapes and sizes, which become smaller as they approach the lower point of the stone.

Panama pearl. Same as **La Paz pearl.**

panchratna. A ceremonial jewel offering to a Hindu temple, composed of gold, diamond, sapphire, ruby and pearl. Like the **naoratna** the jewel is sold when no longer considered worthy and is eagerly purchased by devout Hindus (Kunz).

pane. A star facet.

panella (Brazilian). A miner's

term for **druse.**

panning. Primitive method of washing minerals from alluvial gravel by use of a pan.

pantha (Indian). White and translucent jadeite.

Pao Yü. Alternate spelling of **Pai Yü.**

"paphos diamond" (pae'fos). Quartz.

Papua Gulf pearl. Pearl from Gulf of Papua, New Guinea. Not quite as white as **Australian pearl.**

paradise jasper. A local trade name for a variegated red jasper from Morgan Hill, Calif.

paragon pearls. Round pearls of exceptional size, few if any of which are **fine pearls.**

parallelogram. A four sided figure whose opposite sides are parallel.

paranthine. Haüy's name for scapolite.

parent rock. In geology the rock formation which originally held, and may still hold, a mineral or ore, fragments of which have been carried elsewhere, as in a placer. (Standard)

Paris pearl. An imitation pearl, made partly from **essence d'orient.**

paronigars. Skilled workmen who string Bombay pearls

parti-colored stones. (1) Transparent stones with zones of different color such as pink and green zones often seen in tourmaline. (2) Also, technically, stones such as the sapphires of green color that are produced by blending very thin zones of yellow alternating with zones of blue.

parting. Separation of a mineral along planes of twinning, as opposed to true cleavage which occurs along crystallographic planes.

parure (pa″rur′). A French word meaning a set of jewels, such as a parure of emeralds, consisting of rings, bracelets, earrings, brooch, etc.

Pasha of Egypt Diamond. A famous 40-carat diamond, once in the Egyptian Treasury.

Passau pearl. Term for fresh-water pearl found in Central Europe, marketed through Passau, Bavaria.

paste. Name for glass when used as imitation of gems.

pastoral ring. Bishop's ring.

pate de riz (French, meaning rice paste). Glass which was or is made as an imitation of nephrite (Bauer-Spencer).

pate goung. Indian name for the *Meleagrina vulgaris* which yields the **Persian Gulf pearl.**

Pathakkamala. An Indian historical jewel set with precious gems. The central stone is an emerald one and one-half inches in di-

ameter and weighs sixty rati. *(The Gemmologist)*.

paulite. Same as **hypersthene.**

paved or pave' (pa'vae'). The style of setting small stones as close together as possible in areas, as distinguished from **channel setting.**

pavilion. *In North America and Britain,* the portion of a fashioned stone below the girdle. *On European continent,* the part above the girdle, the portion below being known as the culasse.

pavilion facets. The main facets on the pavilion of any cut stone. In the brilliant cut, the eight main large five-sided facets; although some diamond cutters further distinguish four of these by the name of quoin or bottom corner facets.

Payne, C. J. B.Sc. Ass't. Director of Precious Stone Laboratory, London Chamber of Commerce.

Pb. Abbr. for lead.

Peace Ruby. Found in 1919; weighed 42 c. Sold for £20,000 (Schlossmacher and Smith) or £27,500, the highest price for any rough ruby (Halford-Watkins and Winfield Scott, American Consul in Burma). Schlossmacher mentions a 27-c. ruby also found in 1919, which sold for £27,000, but neither Halford-Watkins nor Scott record it.

peacock stone. Banded malachite cut to exhibit an eye.

pear cut. Any style of cutting resembling a pear, or more loosely the outline of one, such as a **pendeloque.**

pear drop or **pear eye.** A pear-shaped **drop pearl.**

pearl. A calcareous concretion consisting of occasional layers of conchiolin and predominant layers of **aragonite** (or rarely, calcite) most of which have been concentrically deposited about a central point or nucleus. In most cases the nucleus is thought to have been, originally, the location of a parasite or other organic matter which the mollusc has covered with the substances mentioned above, with which it also forms its own shell. Conchiolin predominates in the outer portion of the shell, aragonite in the mother-of-pearl lining and in pearls which occur only in certain molluscs , notably the salt-water genus known variously as *Avicula, Meleagrina,* or *Margaritifera,* and the fresh-water *Unio.* The layers in round pearls which form free within the mantle are spherical and concentric. Many pearls are not round and others are attached to the shell. Gemologically a *true pearl* is composed of predominantly nacreous layers and formed unattached to a shell. *Fine pearls* are those true pearls which possess all the qualifications of a gemstone and are largely limited to **oriental pearls** and **fresh-water pearls.** Composition $CaCO_3$, water and con-

chiolin; H. $2\frac{1}{2}$-$4\frac{1}{2}$; S.G. 1.5-2.78 (most fine pearls 2.66-2.76). Principally from Persian Gulf, Australia, Islands of South Sea, Panama, Venezuela. See also **cultured pearl**; **blister pearl**; **cyst pearl.**

pearl compass. In determinative gemology, an apparatus for discriminating between genuine and cultured pearls. A pearl is hung between the poles of a powerful electromagnet. A cultured pearl tends to rotate and orient itself according to the structure of its core, while a genuine pearl tends to remain stationary.

pearl corundum. Corundum with bronzy iridescent luster.

pearl diver. One who dives for pearl molluscs.

pearl doctor. (1) One proficient in the preparation of **doctored pearls.** (2) A term also loosely used to mean one who peels pearls. See **peeling.**

pearl doublet. See **cultured blister pearl.**

pearl drop. The trade term for an irregularly shaped or imitation pearl mounted with an attached ring for use on pendants, earrings, etc.

pearl endoscope. See **endoscope.**

pearl essence. See **essence d'orient.**

pearl-eye. A spherical pearl (Bauer-Spencer).

pearl fluorescence detector. Usually a lead-lined, light-tight viewing box in which a pearl is activated by X rays. Persian Gulf pearls do not fluoresce. A few Australian pearls, all Japanese cultured pearls so far tested, and all fresh-water pearls do fluoresce.

pearl fluoroscope. See **fluoroscope.**

pearl garnet. A dark amber-brown variety of **andradite** (Schlossmacher).

pearl gauge. A scale arranged as to various diameters and the corresponding estimated weights of fine spherical pearls.

pearl grain. The unit of pearl weights equal to ¼ metric carat.

pearl illuminator. A device which employs a light for the illumination of a pearl. It may illuminate the exterior for observation (a) of the entire pearl as in the **nacrescope** or (b) of the drill hole as in a **pearloscope;** or it may illuminate the drill hole as in the type of **endoscope** which employs a hollow needle with two mirrors.

pearling. The business of pearl fishing.

pearlite. Same as **perlite.**

pearl luster. The surface appearance of a pearl in reflected light, which may be either highly reflective or somewhat dull. Sometimes confused with **orient.** See also **luster.**

pearl miscroscope. A microscope equipped with a pearl-testing **stage.** Same as **pearloscope.** See **microscope.**

pearl mussel. Popular name for the **Unio.**

Pearl of Asia, or Perle d'Asie. A 2420 gr. baroque, shaped somewhat like an elk's tooth, but more cylindrical. Claimed to be the largest precious pearl in the world and to have been valued at over $200,000. Apparently from the mollusc which yields the **Tahiti pearl.** (Boutan).

pearloscope. A name which has been used to include the various pearl-testing devices which employ a **microscope** and a **pearl-testing stage.**

pearl oyster. A popular but misleading name for the pearl-producing molluscs, as none of the *Ostridae* family, including the edible variety, bear fine pearls. See **Margaritifera; Ostridae.**

pearl peeler or **peeling.** See **peeler; peeling.**

pearl price calculator. A chart designed to obtain quickly, from weight, the **base price** of two or more pearls.

pearl radiogram. The record on a photographic film or plate of X rays transmitted through a pearl; an "X-ray photograph" of a pearl.

pearl sac. The tissue which forms about the irritating agent which starts the nucleus of a pearl. In cultured pearls this tissue is cut from one mollusc, the mother-of-pearl. sphere inserted in it, and then it is placed in an incision in another mollusc. In natural pearls it begins as an indentation in the mantle, eventually joins at the neck and secretes the nacre which forms the pearl.

pearl-shooting. Artificial coloring or dyeing of pearls.

pearl spar. Variety of dolomite with a pearly luster.

pearlstone. Same as **perlite.**

pearl-testing stage. See **stage; pearloscope.**

pearl tongs. Tweezers with concave hemispheres on each prong designed to fit and hold a spherical pearl.

pearly. Resembling the surface appearance of the pearl.

pearly luster. The combination of luster and of body appearance caused by internal structure, seen in moonstone, or pearl. See **sheen.**

pear pearl. A term often used for any **drop pearl,** but more especially for pear-shaped pearl.

pears. Pear-shaped pearls.

pear-shape (cut). Same as **pendeloque.**

pebble. (1) A rounded stone, especially a waterworn stone; (2) said in dictionaries to mean also

transparent colorless quartz.

pebble crystal. A waterworn or similarly rounded crystal.

pebble ware. A variety of **Wedgwood** ware with a variegated body of different colored clays intermingled, called according to pattern, agate, Egyptian pebble, granite, lapis lazuli, porphyry, serpentine, verde antique, etc. (Standard)

Pechopal (German). Pitchopal.

"Pecos diamond" (pae'kos). Quartz from Pecos River, Texas, or New Mexico.

"pectolite jade." Incorrect name for pectolite, a semitranslucent-to-opaque, white or grayish, mineral; tough, compact, and fibrous. Smith says has been carved as ornaments and tools by native Alaskans. Mono. H. 5; S.G. about 2.87.

peddi. Singhalese name for **basket.**

pedra de estrelada (Port.). Asteria.

pedra fina (Port.). Gemstone.

pedra preciosa (Port.). Precious stone.

pedra verde. (Port.). Nephrite.

peeler. A pearl with an imperfect skin, the removal of which might improve the pearl. Also a person who peels pearls. See **peeling.**

peeling. Removing outer layer or layers of a pearl in the hope that under layer will be of better quality.

peesal. Same as **pisal.**

peganite. Variscite from Saxony.

pegmatite. Coarsely grained, igneous rock mass, usually in form of a dike, which during its slow solidification contained rare gas or vapors, which aided in forming especially large and well-formed crystals, of which aquamarine, spodumene, topaz, tourmaline, and transparent quartz are gemologically important.

pegmatitic. Of, or pertaining to **pegmatite.**

Peiping jade or **Pekin jade.** (1) Any jade from Peiping, one of China's three largest jade markets, although little jadeite is cut or sold there. (2) Usually nephrite.

pelhamine. A variety of light gray-green **precious serpentine** from Pelham, Mass. (Eppler)

pelle d'angelo (Italian). Name for a rose-red coral.

Pellegrina Pearl. Misomer for **La Pellegrina Pearl.**

pencil stone. Same as **agalmatolite.**

pendant cut. A term used loosely as a synonym for **drop cut.**

pendeloque (pan"d'loke'). A pear-shaped modification of the round brilliant cutting often used for a pendant. Pear-shaped briolettes were formerly called pendeloques and the two styles are still often confused. See **briolette.**

penetration twin. A pair of crystals developed in reverse position with reference to one another and each penetrating through the other.

"Pennsylvania diamond." Iron pyrite.

pentagon cut. Any of several variations of the step cut, having five straight sides.

pentagon facets. A British term for quoin and pavilion facets.

peredell topaz. Light green to yellowish green topaz.

Peregrina Pearl. Misnomer for **La Peregrina Pearl.**

perfect stone. A trade term, used principally for diamonds, referring usually to absence of inclusions or faulty structure within the stone, although some merchants have used it to refer to **make,** absence of exterior blemishes, and absence of undesirable colors. Federal Trade Commission defines as absence of blemishes or internal imperfections under magnification of ten power. American Gem Society prohibits the use of the term by its members and recommends use of the term *flawless* to mean absence of internal flaws. Less frequently used for colored stones in which small inclusions or structural faults are less undesirable, and in fact, sometimes desirable.

perfection color. Finest color of that particular variety of gem.

perforated beads. Beads carved through to an irregular design.

peridot (per'i-dot or per'i-doe). (1) The gemological name for the transparent-to-translucent, olive to light yellow green, brownish, or grayish mineral species, known also as chrysolite or olivine. Ortho. $(MgFe)_2SiO_4$; H. 6½-7; S.G. 3.2-4.3; R.I. 1.64/1.68-1.67/1.71. Bi. 0.038. Disp. 0.018. Source: St. John's Island in Red Sea, Burma, Ceylon. Arizona and New Mexico (in sand) etc. (2) The transparent full-colored yellow-green to green to olive-green variety of that species. S.G. 3.2-3.5; R.I. 1.64/1.68-1.66/1.70; Disp. 0.020 (Smith).

peridotite. A very basic igneous rock, consisting chiefly of olivine and pyroxene.

"peridot of Ceylon." Same as **"Ceylon peridot."**

perigem (per'i-jem). Trade-marked name for light yellow-green synthetic spinel.

perimorph. A mineral of one species enclosing one of another species (Webster). See **endomorph.**

periostracum (per"i-os'tra-kum). The outermost horny conchiolin layer of the shell of a mollusc.

peristerite. A variety of reddish albite from Ontario, Quebec, and Madagascar, which displays bluish **labradorescence** (Kraus and

Slawson); sometimes called **albite moonstone.**

perla (Span.). Pearl.

perle coq. French term for a hollow pearl.

perle fine (French). Same as fine pearl.

perles au nacre. Same type as "perles des Indies."

"perles des Indies." Imitation pearls which were made from pulverized nacre of mother-of pearl.

perlite (pur-lite). (1) Obsidian with a concentric shelly structure, probably produced by contraction in cooling. (2) A gray obsidian. See also **spherule.**

perlometer. The manufacturer's trade name for his model of a pearloscope.

perola (Port.). Pearl.

Persian Gulf pearl. At present the finest quality of oriental pearl. Noted for fine color, shape and orient. From the **Mahar,** a variety of *Meleagrina* (or *Margaritifera*) *vulgaris,* a species of mollusc which produces the Lingah shell. Principally from banks near Bahrien Island. Term also deceivingly applied to an imitation pearl. Same as **Lingah pearl.** Geographically, any other pearl found in Persian Gulf can be meant by this term, including **zinni pearl.** See **Meleagrina pearl.**

Persian lapis. A term still sometimes used for the fine quality **Afghanistan lapis** from Badakshan, once Persian territory.

Persian turquoise. (1) A trade name for the finest quality turquoise, intense, light blue in color, which in early times came from Persia (now Iran) although some may have been mined in Turkestan or Tibet. (2) More specifically, turquoise from various present-day mines in Iran.

perspex. A polymerized acrylic ester plastic. S.G. 1.18; R.I. 1.50. (Anderson). Same as **diakon.**

Peruvian emerald. A term applied to genuine emerald from South America taken to Spain during and after the conquest of Peru, which then included present-day Colombia. See **Colombian emerald.**

pesal. Same as **pisal.**

peso especificio (Span.). Specific gravity.

petal pearls. Flattened, leaf-like pearls.

Petoskey agate or **stone.** Fossil coral from Petoskey, Michigan.

petrifaction (pet″ri-fak′shun). Process of changing organic material into stone by replacement. The original structure is sometimes retained.

petrified asbestos. A name for either **tiger eye, hawk's-eye,** or **quartz cat's-eye.**

petrified wood. Fossilized wood in

which the cells have been entirely replaced by crystallized silica and hence converted into quartz or opal, or (2), less often by other substance. It is usually easy to identify as it reveals, more or less, the original structural pattern of the wood. See **petrifaction; agatized wood; opalized wood; silicified wood.**

petrographic or **petrological microscope.** See **microscope.**

petrosilex. (1) An old name for extremely fine crystalline porphyries and quartz and for those finely crystalline aggregates we now know to be devitrified glasses. (2) Hornstone (Schlossmacher).

Pezometer. Trade name for a German diamond weight calculator constructed by Wilhelm Rau, on same principle as **Moe gauge.**

phanerocrystalline. Having all crystalline grains large enough to be seen with the unaided eye as distinguished from **cryptocrystalline.**

phantasy pearl. An 18th Century name for **blister pearl.**

phantoms. In a transparent crystal, visible layers, of slightly different tone or hue, which once were the faces of the crystal, and on which during its growth particles of some different substance or substances, usually a mineral, were deposited in one or more adjacent atomic (growth) planes, producing an outline of the faces of the former crystal, parallel to the faces or to the **possible crystal faces** of the present crystal. Several phantoms may occur in the same crystal at different intervals. The differently colored zones in transparent tourmaline, sapphire, etc., are sometimes classified as phantoms but are usually more regularly spaced, more strongly colored and more often caused by differing coloring oxides.

Phassachate (German). A lead-colored agate.

phenacite (fen a-site). A transparent to semitranslucent mineral of little gem value except to collectors; colorless, pale yellow, pale red. Dana lists also bright wine, yellow and brown. Hex. Be_2SiO_4; H. 7½-8; S.G. 2.95-3.00; R.I. 1.65-1.67 (Smith) or 1.67-1.69 (Schlossmacher); Bi. 0.016; Disp. 0.015. From Ural Mountains; Brazil; Colorado; Maine; Tanganyika, and other sources.

phengite. (1) A kind of transparent or translucent mineral, used by the ancients for windows; (2) a non-gem variety of muscovite (Webster).

phenocrystalline. Same as **phanerocrystalline.**

phenomenal gem. A gemstone exhibiting an optical phenomenon. See **phenomenon.**

phenomenon. In gemology, an

optical effect in visible light occurring in certain, but not in all, specimens of a species. See **adularescence; asterism; chatoyancy; fluorescence** (in ultra-violet light) ; **girasol; laboradorescence; orient; play of color; schiller.**

phenyldi-iodoarsine. $C_6H_5AsI_2$. A highly refractive liquid (R.I. 1.85) used for making optical contact between stone and dense glass of refractometer, and as an immersion fluid (R. Webster).

Philip II Pearl. A Venezuelan pearl. Same as **La Peregrina.**

Philippine pearl. Pearl from various islands of the Philippine Archipelago and adjacent islands. In quality, Philippine **white pearl** is better than **Australian pearl** and inferior to **Madras pearl** or **Bombay pearl.**

phosphoresence. A continuance, after the removal of the exciting radiations, of **fluorescence.**

phosphoroscope. Basically, a closed chamber in which specimens may be observed for phosphorescence after having been exposed to X rays, cathode rays, or ultraviolet rays, or after having been rubbed, heated, etc. (Shipley, Jr.).

photometer. An instrument for measuring the intensity of light, or for comparing intensities from two sources. The more accurate types are built around photoelectric cells. (Shipley, Jr.)

photomicrograph. A photograph of the greatly magnified image of an object.

physical properties. The **specific gravity, hardness, tenacity, cleavage, fracture** and other similar characteristics of a substance, and to a lesser extent, its optical properties.

picotite. Same as **chrome spinel.**

picrolite. A variety of fibrous green **precious serpentine.** H. 4.5 (Eppler). From various sources. See also **baltimorite.**

piece pearl. A name used in books by early authorities to mean a small pearl somewhat larger than **seed pearl.**

piedmontite. A brownish red variety of epidote from Piedmont, Italy.

piedra arbol (Span.). Mocha stone.

piedra de aguja (Span.). Sagenitic quartz.

piedra de calmuco. (Span.) A cloudy opal, usually a **cachalong.**

piedra de camela. Cinnamon stone.

piedra de grosella (Span.). Grossularite.

piedra de ijada (Span.). (Colic stone.) Original Spanish name for jade from which the words *jade* and *jadeite* have evolved in Spanish, English, and other languages.

piedra del sol (Span.) Sunstone.

piedra de madera. A Spanish name for jasper.

piedra de mes. Birthstone.

piedra de sangra (Span.). Hematite.

piedra de serra (Span.). Brazilian agate.

piedra de simava (Span.). Fire opal.

piedra dorado (Span.). A name for chrysolite.

piedra estrellada (Span.). Asteria.

piedra fina (Span). Gemstone.

piedra miel (Span.). Mellanite.

piedra moca. (Span.) Mocha stone.

piedra preciosa (Span.). Precious stone.

piedra sintético (Span.). Synthetic stone.

piedra verde (Span.). Nephrite.

pierre argentine (French, meaning *silvery stone.*) Moonstone.

pierre de lune (Fr.). Moonstone.

pierre étoilée (Fr.). Asteria.

pierre fausse (Fr.). Imitation stone.

pierre fine (Fr.). Precious stone.

pierre precieuse (Fr.). Precious stone.

pietra (Italian). Stone.

pietra albero (Italian). Tree stone. Same as **mocha stone.**

pietra dura (Italian). Ornamental stones, especially those inlayed in mosaic patterns in marble.

pietra precioso (Italian). Precious stone.

piezoelectricity. The property possessed by certain crystals, such as quartz and tourmaline, of developing a charge of electricity when under pressure or tension. A piezoelectric effect is observed in some quartz which consists of alternate expansion and contraction producing oscillations useful in radio equipment.

pigeon blood agate. Local name for carnelian or red and white agate from Cisco, Utah.

pigeon blood ruby. Ruby of the finest color quality. Purplish red, likened to color of arterial blood of fresh-killed pigeon.

pigment (in gems). Term loosely used to mean the particles which impart color to gems; principally oxides.

Pigot or **Pigott Diamond.** An Indian diamond variously said to have weighed 47 to 85.8 carats and to have been destroyed by its owner.

Pike's Peak amazonite. Fine amazonite from Pike's Peak and its environs including Crystal Park, Crystal Peak, Devil's Head and other localities in Colorado.

pinacoidal. Relating to crystal forms with two planes parallel to two or more **crystallographic axes.**

pincette. A French name for tweez-

ers.

pinchbeck. (1) An alloy of copper, zinc and tin used as imitation of gold. (2) Figuratively an imitation, especially a pretentious one.

pin fire opal. Opal exhibiting pinpoint color flashes smaller and usually less regularly spaced than the patches in **harlequin opal.**

pingoo. Burmese term for silky ruby with or without star (Gems & Gemology).

pingoo-choo. Burmese term for best quality star rubies.

pingos d'agoa (Portuguese meaning drop of water). Brazilian term for colorless water-worn pebbles (Bauer).

pinite. A mineral resulting from decomposition of iolite and belonging to the mica group (Dana); a silica-rich variety of it is a variety of **agalmatolite** (Smith).

pink beryl. Same as **morganite.**

pinked topaz. Pink topaz artificially colored by heating yellow or brown varieties. See **heated stone.**

pinking. Heating topaz to change its color to pink.

"pink moonstone." Pink girasol **scapolite.**

pink sapphire. Pale to light red corundum as distinguished from full red or dark red which is ruby. As yet there is no standard of determining the dividing line between these, the more highly transparent stones of light to full color being often classed as sapphire while more often a much paler stone is called Ceylon ruby.

pink topaz. Topaz either naturally pink or artificially colored pink by heating yellow or brown varieties. See **pinked topaz.**

Pinna pearl. A pearl of various colors from any of the several pearl-bearing varieties of the salt-water genus of bivalve known as *Pinna* or wing shell, of which *Pinna nobilis* of the Mediterranean sea produces the most desirable varieties which have a peculiar rose tint but no orient. Pinna pearl has a more crystalline structure and is more nearly translucent than pearl from *Margaritifera* (Kunz). Also yellow, brown and black. See **Margaritifera pearl.**

pin-point opal. Same as **pin-fire opal.**

Pintadina. The pearl oyster. (Standard)

pintas. A Mexican name for surface indications of opal-producing areas.

pipe. The cylindrical rock mass of volcanic origin in which diamonds occur. (Wigglesworth)

pipe opal. Long narrow cigar-shaped opalized fossils. See page 259.

pipes. Volcanic chimneys or fissure widenings which sometimes con-

tain kimberlite.

piropo (Span. and Italian). Pyrope.

piruzeh (Persian). Turquoise.

pisal. Ceylonese trade grade for a deformed pearl or cluster of small misshapen pearls, of poor color and of little value. (Kunz.).

pisolitic (pie″soe-lit′ik or piz″oe-lit′ik). Composed of or containing rounded masses about the size of peas.

pissophane. Wax-impregnated hydrophane (Schlossmacher). See **pyrophane.**

pistacite (pis′ta-site). Epidote.

pit. Trade term for a small fracture in the flat surface of a facet of a gem, or along the junction of two facets.

pit amber. A name for mined amber in contrast to sea amber.

pitch garnet (German Pechgranat). Very dark yellow andradite.

pitch lap. A metal or other rigid lap whose surface has been covered with pitch, useful in obtaining better polish on soft gemstones.

pitch opal. A yellowish to brownish common opal with a pitchy luster.

pitch stone. Obsidian with pitch-like luster. Gray, yellow, red or brown, containing more water and harder (5½-6) than most obsidian (Eppler).

pitchy luster. Resembling the luster of a fresh surface of pitch.

Pitdah. Second stone in Breastplate of the High Priest, called topazius. However, "topazius" of the ancients signified a stone of greenish hue, chrysolite, or peridot. The derivation of the Hebrew Pitdah is "yellow" and may refer to our topaz. Engraved with the name Simeon.

pitted. Containing pits.

Pi Yü. Chinese name for the vegetable green nephrites, although some jadeites of those hues are sometimes included. See **spinach jade; Fei Ts′ui; Pao Yü.**

Pizarro pearl. See **Oviedo pearl.**

Pl. Abbreviation for pleochroism.

placer (plas′er or pla-ser′). Alluvial or glacial deposit in which minerals are found. Usually an accumulation of sand and gravel containing gold, gem material, or other minerals of value.

Placuna pearl. A pearl from the *placuna* or window glass shell with a micaceous luster. Is sold in the Orient, usually for medicinal purposes (Kunz).

plagioclase. The series or group of feldspar minerals, including **albite, oligoclase** and **labradorite.**

plain cut. A form without facets; cabochon, for example (Pough).

plane of symmetry. In crystallography, the plane which, in an **ideal crystal form,** would divide

the crystal into identical halves. Such a crystal could have more than one plane of symmetry depending upon the number of faces it possesses.

plasma (plaz'ma). Green semi-translucent, almost opaque, cryptocrystalline **quartz,** sometimes with white or yellowish spots; with red spots it is **bloodstone.**

plaster stone. Gypsum.

plastic. A natural or, more frequently, a synthetic materal which can be shaped when soft and hardened afterwards. Sometimes transparent or translucent, as **bakelite,** or **lucite.** Occasionally fashioned as imitation gems, especially those with resinous luster like that of amber.

plate cut. A style of cutting in which many opaque ring stones are fashioned. Consists of large, flat, parallel top and back; sides may be beveled or stepped.

plates. Laminated layers in a mineral; broad, relatively thin masses.

platinum (plat'i-num). (1) A metallic element. (2) A very heavy, very pale gray, soft metal of the **platinum metals,** more costly than gold. See **iridio-platinum.**

platinum metals, the. The precious metals known as the platinum group: platinum, iridium, palladium, ruthenium, rhodium, and osmium. The first two are used as principal, and the next three as minor constituents of alloys used for mountings or settings of gems.

platy. Consisting of, or readily splitting into, **plates.**

play of color. The optical phenomenon consisting of flashes of different prismatic colors due to **interference of light** at thin films within or near the surface of a gem, and seen in rapid succession when the gem is moved, as in opal. It partly causes the orient of pearls, but differs from **change of color, dispersion, fire,** and **opalescence.**

pleochroic colors. The colors observable in a **pleochroic gem.**

pleochroic gem or **stone.** One which exhibits **pleochroism.**

pleochroic halo. In gemology, a cloudy inclusion in some gems apparently caused by inclusions of radioactive minerals and generally surrounding such inclusions. Sometimes concentric, sometimes radial.

pleochroism (ple-och'ro-izm). The property of most doubly refractive colored minerals of exhibiting either two or more different **colors** when viewed in different directions by transmitted light, the doubly refracted rays traveling in different directions having been absorbed differently by the mineral. Rarely distinguished by the eye except

as one blended color, unless viewed through an instrument such as a polarizing microscope, polariscope, or dichroscope. The comparative strength of pleochroism is expressed as *strong*, *distinct* or *weak*. See **dichroism**; **trichroism.**

pleocroismo (Span.). Pleochroism.

pleomorphism (plee″oe-more′fizm). Same as **polymorphism.**

pleonaste (plee′oe-nast). Black spinel.

plexiglass. A trade name for transparent methyl-methacrylate plastic. S.G. 1.19; R.I. 1.49.

Pliny the Elder, Gaius Plinius Secundus (Circa A.D. 23-79). Author of *Historia Naturalis*; (37 books, the last 5 books treating largely of gems and other minerals).

plume agate. Same as **flower agate.**

plumose. Feather-like.

pocket. A cavity in rock, often filled with minerals.

Pogue, Joseph Ezekiel, Jr. (1887-). Ass't. Prof. of Geology, Northwestern Univ., 1914-17. Petroleum expert. Author of: *The Turquois: A Study of its History, Mineralogy, Geology, Ethnology, Archaeology, Mythology, Folklore, and Technology (Memoirs of Nat'l. Acad. of Sci., Vol. XII, Part 2, 3rd Memoir)* Washington, 1915.

point. Term used in the jewelry trade to mean one hundredth of a carat. A sapphire weighing .52 carat is said to be a fifty-two point sapphire or a fifty-two pointer.

point agate. Same as **point chalcedony.**

point chalcedony. Pough lists as white or gray chalcedony flecked with tiny spots of iron oxide, the whole surface assuming a uniform soft red color.

pointed hexagon cut. See **hexagon cut.**

point source (of light). A single point from which light emanates, such as the sun, the filament of an electric lamp or other superheated metal, etc. The term is often extended to include as well the reflections of such point sources as seen in mirrors, or the facets of gemstones. Some objects are designed to reflect multiple images of a point source, and each of such images is also popularly known as a point source.

polariscope. An optical instrument consisting basically of two polarizers with a means of rotating a specimen between them. The polarizer through which light enters is called the polarizer, that through which observations are made is called the analyzer. A polariscope is used to ascertain whether a substance possesses single **refraction** or **double refraction.** If especially designed to hold fashioned and

mounted or unmounted gemstones, it is known as a *gemological polariscope*. See **Shipley polariscope.**

polariser. See polariscope.

polarity (of crystals). The property of having differing types of termination at the two ends of a prismatic crystal. May be reflected in pyroelectric properties, conduction of electric current, etc.

polarized light. Light of which the vibrations have been limited to parallel planes, as contrasted with ordinary light, which vibrates in all planes at right angles to its direction.

polarizer. A device employed to produce polarized light: Nicol prism, polaroid sheet, tourmaline plate, glass reflecting plates, etc.

polarizing microscope. See **microscope.**

polarizing prism. Any prism so constructed as to produce polarized light; usually made of sawn and recemented calcite. (R. M. Shipley, Jr.) See also **Nicol prism.**

polaroid. A trade name for a plastic sheet in which tiny polarizing crystals are held in common orientation. Light transmitted through it becomes polarized. See also **polarizing prism** (R. M. Shipley Jr.).

Polar Star Diamond. A famous Indian diamond last reported as in Russia; weighed 40 c.

polish. A smooth surface, usually produced by friction or abrasion.

polished girdle. See **girdle.**

polishing. The act of producing a polish, especially on the facets of a gemstone.

polka-dot agate. Local name for translucent, almost colorless, chalcedony, with yellow, red, or brown circular dots. From Oregon.

pollucite. A rare, transparent, colorless gem mineral of interest to collectors only. Iso. $H_2Cs_4Al_4(SiO_3)_9$; H. 6.5; S.G. 2.9; R.I. 1.52. Disp. 0.012. From Australia, Sweden, Maine and other sources.

pollux (obsolete). Same as pollucite.

polychroite. Same as **iolite.**

polygonal. Having straight sides; usually more than four, in contrast to **parallelogram.**

polymorphism. The occurrence of a chemical substance in two or more crystal forms possessing different atomic structure, and therefore different properties. Carbon crystallizing as diamond (isometric) and graphite (rhombohedral) is called *dimorphous*; TiO_2, crystallizing as rutile, brookite, and octahedrite is *trimorphous*. These as well as others such as SiO_2, crystallizing in a greater number of forms are *polymorphous* or *pleomorphous*.

polysynthetic twin or **twinning.** See

twin; twinning.

"pomegranate ruby." In India, a misnomer for red spinel.

pontic chryselectri. Citrine (Pliny).

popo (West African). Green jasper.

poppy stone. Red orbicular jasper popular with mineral collectors for cutting cabochon. From California.

porcelain (por'see-lane or pors' lane). A vitreous, translucent pottery product, usually glazed.

porcelainite. Hard baked or partly metamorphosed clay or shales found on floors or roofs of burned-out coal mines.

"porcelain jasper." Red or green **porcelainite.**

porcelain opal. Milky white opal more opaque than **milk opal.**

porous stones. Those crystalline or cryptocrystalline aggregates which permit the entrance of solutions such as dyes between particles. See **stained stone.**

porphyritic obsidian. Obsidian resembling **porphyry** in appearance.

porphyry (por'fi-ri). A fine-grained rock containing embedded crystals of much larger size. Polished sections produce a distinctive mottled design.

porphyry ware. A variety of **Wedgwood** colored and marked to resemble porphyry.

Port. Abbr. used in this book for Portuguese.

portability. Capability of easy transportation.

positive mineral or **stone.** A doubly refractive mineral or stone in which the index of refraction for the extraordinary ray is greater than for the ordinary ray, the former being refracted nearer to the normal than the latter, as in quartz. See also **negative mineral.**

positive double refraction. See **optic sign.**

positive stone. See **optic sign.**

possible crystal face. A face which, because of the known crystal system to which a mineral belongs, might be, or have been, present on a crystal, but which may not now be existent on it.

potato stone. A potato-like geode of quartz, having a central cavity lined with crystals.

potch. Australian miners' term for an opal which may be colorful, but without fine play of color.

potstone. Soapstone (impure talc).

Pough, Frederick Harvey. (1906 -) Ph.D. Harvard 1935. Assistant Curator of Minerals, Am. Mus. of Nat. History, 1935-1942. Curator, Physical Geology and Mineralogy, 1942-. Author of gem definitions *Jewelers' Dictionary* published serially in *Jewelers' Circular-Keystone* 1942-'45.

prase. Translucent light or grayish yellow-green quartz (1) cryptocrystalline (chalcedony) (Dana, Kraus); (2) crystalline and colored by inclusions of actinolite needles. (Smith,

Titles within quotation marks are misnomers. Every unusual word or term used is defined in this book and if printed in **bold faced type** its entry should be consulted. To fully understand the definitions, read the introductory pages.

Schlossmacher)

prase malachite. Grayish chalcedony the color of which is caused by thick sprinklings of inclusions of malachite. From Arizona and other copper-producing states.

prase opal. Same as **prasopal.**

prasio (Span.). Prase.

prasius. Prase.

prasopal. Green **common opal** colored by chrome. From Australia, Hungary, Brazil (Eppler). See also **crysopal.**

precious cat's-eye. Chrysoberyl cat's-eye.

precious coral. Coral of reddish hues and tones distinguished from common coral and **black coral.**

precious jade. True jadeite or nephrite, more often the former.

precious garnet. (1) A trade term for rhodolite garnet from Siam (Thailand), an especially brilliant garnet (2) almandite when it is unusually purplish and brilliant (3) pyrope when it is quite red and not too dark to reduce its brilliancy.

precious metals. Metals which are more beautiful, rare, easily worked, and resistant to corrosion than most other metals, and which also have durability desirable in jewelry, coinage and the arts. Gold, silver, and the **platinum metals.**

precious moonstone. Adularia. See **moonstone.**

precious olivine. Peridot.

precious opal. A classification which includes opal with **play of color** and also, according to most authorities, **fire opal.** See **common opal, semiopal.**

precious scapolite. Gem quality scapolite (Eppler).

precious schorl (obsolete). Gem quality tourmaline. See **schorl.**

precious serpentine. A term used by Dana, Kraus, Eppler and others, for oil-green and light-green to light-yellowish translucent varieties of **serpentine** which are easily fashioned as **ornamental stones,** or used as substitutes for jade or chrysoprase. Eppler includes **bowenite** and **williamsite,** also **picrolite, retinalite, pelhamine** and **conamara.**

precious stones. As contrasted with so-called semiprecious stones, include the more important and comparatively more valuable gems such as diamond, ruby, sapphire, and emerald. However, in a strict sense all genuine gem materials are precious. See **semiprecious stones.**

precious topaz. (1) Term still applied, by some jewelers, to genuine topaz to distinguish it from topaz-colored quartz, known as "jewelers' topaz". (2) Incorrect term for yellow-to-brown sapphire.

precious tourmaline. Tourmaline which, like many other gem minerals, occurs most frequently in dark colored non-gem varieties.

precipitate. The solid produced (generally in powdery or min-

utely crystalline form) when chemical reaction produces an insoluble compound.

prehnite (prane'ite or pren'ite). A translucent green-to-yellowish green, also white or grayish gem mineral of most interest to collectors. Cut cabochon and somewhat resembling jade. green varieties often fade. Ortho. $H_2Ca_2Al_2(SiO_4)_3$; H. 6-6½; S.G. 2.8-2.9; R.I. 1.62/1.65; Bi. 0.030. From France, New Jersey, and Lake Superior district.

pressed amber. An amber substitute produced by consolidating fragments of amber under pressure, usually with linseed or other oil as a binder. Also called reconstructed amber.

pressed cameo. Similar to **molded** cameo, but pressed.

pressed copal. Made like pressed amber, from fragments of copal.

pressed glass. Glass objects formed by forcing glass heated to a viscous state into moulds. Process used to produce the cheapest sort of imitation gemstone.

primary colors. A term which may refer either to three primary hues, red, yellow and blue, or to six primary hues, red, orange, yellow, green, blue and violet. See **spectrum.**

primary deposit. A deposit of minerals *in situ;* i.e., where they were formed, as distinguished from **secondary deposit.**

prism. (1) *(Optics)* Transparent medium contained between plane facets, usually inclined to each other. (2) *(Crystallography)* A form having all its faces, with the exception of bases, parallel to one axis.

prisma. (1) (German) A prism. (2) A highly refracting glass (Pough).

prismatic (priz-mat'ik). (1) *(Optics)* Resembling the colors formed by the refraction of light through a prism. (2) *(Crystallography)* Having elongation in one direction, commonly parallel to one of the crystallographic axes; also parallel to the faces of a crystal, as prismatic cleavage.

prismatic layer. A layer, in pearl or mother-of-pearl, composed of minute crystals of aragonite arranged with their principal axes perpendicular to the surface of the layer.

"prismatic moonstone." Clouded chalcedony.

"prismatic quartz." Iolite.

prismatic spectroscope. See **spectroscope.**

prism, polarizing. See **polarizing prism.**

proper proportion (of a cut gemstone). In a transparent stone, the proportion of the mass above and below the girdle, as well as the angles of the facets in relation to the girdle, which will produce the greatest brilliancy

from the particular species. These proportions vary with the R. I. of the gem species. A table of proper proportions of various stones appears on Page 84 of Kraus and Slawson's *Gems and Gem Materials*, 3rd edition.

properties. Term loosely used to mean the **physical properties** and **optical properties** of a gemstone or its substitute.

proportion (of a cut gemstone). See **proper proportion.**

protons (proétons). The name for the particles or electrical charges which make up the nucleus of an atom. See **electrons.**

Prussian amber. Succinite from Prussia, See also **Baltic amber.**

pseudo. False.

pseudochrysolite. Moldavite.

pseudocrocidolite. Quartz pseudomorphous after crocidolite; tiger-eye and hawk's-eye.

pseudodiamond. Quartz crystal.

pseudoemerald. Malachite.

pseudohexagonal, pseudotetragonal, etc. Having false and misleading resemblance to crystals of the hexagonal, tetragonal system, etc.

pseudojade. False jade. Term like many others with the prefix *pseudo-* referring to almost any similarly appearing substitute of the stone.

pseudojadeite. Name given especially to a jade-like mineral from a jadeite quarry at Tawmaw, Upper Burma. S.G. 2.577; classed as albite.

pseudomalachite. A hydrous phosphate of copper occurring ordinarily in massive forms of bright green color resembling malachite.

pseudomorph. A mineral having the characteristic crystal form of another species (the original material composing it having been altered or replaced but retaining the form of the original species.) Thus tiger eye (quartz) is pseudomorph of the mineral crocidolite and is no longer crocidolite, but quartz. It is said to be pseudomorphic or pseudomorphous after crocidolite. (Wigglesworth)

pseudomorphic or **pseudomorphous.** See **pseudomorph.**

pseudophite. A green mineral resembling serpentine and mentioned by Anderson as a possible jade substitute. Classified by Dana as a variety of penninite. Mono. H. 2.5; S.G. 2.6-2.8; R.I. 1.57-1.58. Bi. 0.003 (R. Webster). From Switzerland, Italy, Austria, Scandinavia and other sources.

pseudosilk. A false **silk** often

observed in Siam rubies or sapphires, understood to be due to microscopic acicular crystals of titanic iron (R. Webster).

pseudosuccinito. Amber from Equilleres, Basses-Alpes, France. R.I. 1.085.

Pteriidae. Same as **Aviculidae** or **Malleidae.**

pudding stone. A conglomerate in which the pebbles are rounded and cemented together by a finer-grained mineral. See also **breccia.**

pudding stone jade. Nodules of nephrite cemented together by a darker olive-green variety of nephrite.

"pudding stone jasper." A pudding stone of quartz pebbles cemented by chalcedony. Cut as a curio stone in Lake Superior district.

punamu. Maori name for axe stone or **nephrite.**

purple-of-the-veins jade. A fanciful descriptive term applied by Chinese to a stone which, if jade, must be extremely rare.

purplish red. In color nomenclature system of North American gemology, a hue between red and **violetish red** but nearer the latter.

purpurin. Same as **hematinon.**

putty powder. Same as tin oxide.

pycnometer or **pyknometer.** Same as **specific gravity bottle.**

pyralin. A variety of celluloid.

pyralmandite. A contraction of pyrope and almandite for garnets of intermediate composition.

pyramid. A crystal form. See **pyramidal.**

pyramidal. Possessing the form of or pertaining to the **pyramid**; a crystal form the faces of which commonly intersect three crystallographic axes.

"pyramidal garnet." Idocrase.

pyrite. Same as iron pyrites. A metallic, pale brassy yellow mineral, widely sold as marcasite which it slightly resembles; also often occurring as flecks (inclusions) in lapis lazuli and popularly called "fool's gold." Iso. FeS_2; H. 6-6½; S.G. 4.8-5.2. From many localities.

pyrites. Name used popularly and without qualification for **pyrite** or iron pyrites. Mineralogically there are other minerals, of no gemological interest, called tin pyrites, copper pyrites and others.

pyritohedron. See **dodecahedron.**

pyroelectricity. An electric charge produced in certain substances by heating, as in tourmaline.

"pyroemerald." Green fluorite.

pyrometer. An instrument for measuring high temperature used in production of **heated stones.** Such instruments are used to heat gemstones accurately in order to alter their

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color.

pyrope. A species of the garnet group, the transparent varieties of which are gemstones. The species grades as to color and chemical composition into **rhodolite** and **almandite.** Colors range from intense orange-red to intense pure red, which is the best. Brownish red and other brownish varieties are of less value. Known in the trade as **Bohemian garnet,** especially when its color is the dark intense red. $Mg_3Al_2(SiO_4)_3$; Iso.; H. 7¼; S.G. 3.6-3.8; R.I. 1.74-1.75; (non-gem varieties 1.705-1.77). Sources: South Africa, Czechoslovakia, Arizona, Utah, Colorado, etc.

pyrophane. Wax-impregnated hydrophane (Bauer-Spencer).

pyrophyllite. A mineral species, the compact form of which is used for slate pencils and which also includes part of what is known as **agalmatolite.** A hydrous aluminum silicate. H. 1-2; S.G. 2.8-2.9; R.I. 1.55-1.60; Bi. 0.048.

pyroxene (pie'rok-seen or peer'-ox-ene). In mineralogy, a group of minerals which includes **diopside, enstatite, hypersthene, jadeite,** and **spodumene.** They all contain silica in combination with other elements.

Q

quahog pearl. Pearl from the quahog *(Venus mercenaria)*; a salt water clam. From Atlantic coast of North America. Same as **clam pearl.**

quartz. One of the most common and widely distributed minerals. Includes many varieties of ornamental stones and gemstones of many differing colors, some crystalline and some cryptocrystalline. Hex. SiO_2; H. 7; S.G. 2.59-2.66 (chalcedony 2.55-2.63). R.I. 1.54/1.55; Bi. 0.009; Disp. 0.013. See **chalcedony.**

quartz cat's-eye. Light to dark grayish green quartz with good cat's-eye effect resulting from fibrous mineral inclusions. See **"Bavarian," "Harz," "Hungarian,"** and **occidental cat's-eye.**

quartz glass. (1) Transparent fused rock crystal, better known as *fused quartz*; (2) a term sometimes applied, often deceptively, to any glass, which, being made from sand, is principally quartz.

quartzite. A metamorphosed sandstone.

quartz rock. Same as **quartzite.**

"quartz topaz." A frequently used incorrect name for citrine. See **topaz quartz.**

"Quebec diamond." Quartz crystal.

Queen Elizabeth Pearls. A name sometimes applied to the four drop pearls, suspended from the intersections of the arches of the Imperial State Crown of Great Britain, which pearls, according to tradition, belonged to Queen Elizabeth (Younghusband). Elizabeth was one of the world's greatest collectors of pearls.

Queen of Pearls. See **La Reine des Perles.**

Queen Pearl. The most famous American **fresh-water pearl.** Found in Notch Brook near Paterson, N. J., in 1857, it was pinkish and weighed 93 grains. Purchased by Tiffany and Co., it was sold to a French gem dealer, who sold it to Empress Eugenie, who also possessed the **Empress Eugenie Diamond.** (Kunz)

Queensland. A state in the Commonwealth of Australia in the northeast part of the continent.

Queensland opal. Australian opal with light yellowish color. From Queensland.

Queensland sapphire. Sapphire from near Anakie, Queensland, Australia, which is usually the dark blue of the typical **Aus-**

tralian sapphire. Often green, sometimes yellow, pink or purplish. Rarely lighter and more desirable blue. Many bluish star sapphires also have been found here.

Queenstownite. Same as **Darwin glass.**

queluzita (Brazilian). Spessartite.

Queretaro (ka-ray'tah-ro). Mexican state and city, 100 miles northeast of Mexico City, known as principal locality for **Mexican opal.**

quetzalitztli. Translucent jade (S. H. Ball). Named after the gorgeous feathers of the *Trogans replendens*, which the Aztec chiefs wore in their hair.

quicksilver jade. A descriptive term of the Chinese for an unusual variety of **jade.**

quilate (Spanish and Portuguese). Carat.

quincite or **quinzite.** (1) A rose-colored common opal. (2) A variety of sepiolite associated with it but spelled *quincite* only.

R

radiated. Having fibers, columns, scales, or plates diverging from a point.

radioactive. Capable of spontaneously emitting special radiations which can penetrate objects opaque to ordinary light.

radiogram. Name used for X-ray photograph of pearls, used as an indication to determine whether a pearl is **genuine** or **cultured pearl.** The most revealing radiograms have recently been obtained by immersing the pearl in CCl_4.

radiograph. Term used for X-ray photos of pearls which indicate the nature of their interior structure. See **X rays.**

radio halo. Same as **pleochroic halo.**

radio opal. Common opal of a smoky color caused by organic inclusions or impurities (Merrill).

rainbow agate or **chalcedony.** Iridescent agate.

"rainbow obsidian." An American Indian name for iridescent obsidian. From Lake County, Oregon.

rainbow quartz. Same as **iris quartz.**

rain stone. Pebbles of waterworn quartz.

Ramona beryl, hessonite and **tourmaline.** From Ramona gem mines, 10 miles S.E. of Mesa Grande, San Diego County, Calif.

raspberry spar. Rhodochrosite; also incorrect name for pink tourmaline.

rati. See **rutee.**

ratine (ra-tenae'). The cottony or fuzzy appearance seen in a mixture of alcohol and water. The body appearance of most brilliant-cut zircons.

ratna. In Singhalese, a gem.

ratti (rut'ee). See **rutee.**

Rayner refractometer. A **gemological refractometer** employing small fixed prism of dense glass or, rarely, a prism of diamond. Suitable for use in the hand. See **Smith refractometer, Tully refractometer, Erb & Gray refractometer.**

reconstructed amber. Same as **pressed amber.**

"reconstructed emerald." A term which has been applied to vari-

ous imitations of emerald, including glass, doublets and especially **smaragdolin.** Emerald was never successfully reproduced as a reconstructed stone.

reconstructed ruby. Particles of genuine ruby fused together. Term is often used incorrectly for synthetic ruby. See **synthetic stones.**

"reconstructed sapphire." An incorrect name for **synthetic sapphire.** Blue **corundum** has never been reconstructed commercially, if at all.

reconstructed stones. Stones made by fusing together small particles of the genuine stone. They differ from **synthetic stones.**

reconstructed turquoise. (1) Reconstructed stone made from small particles of turquoise (Schlossmacher). (2) Incorrect term for a turquoise substitute made of powdered ivory, cemented and stained.

rectangular. (1) Being a rectangle. (2) Having one right angle or more.

red-brown. In **color nomenclature system** of North American gemology, the color approximately midway between vivid red and the tone and **intensity** of brown which is almost black. Same as **brown-orange.**

reddish brown. In color nomenclature system of North American gemology, a color which is approximately midway between (a) **red-brown** and (b) the tone and intensity of brown which is almost black.

reddish orange. In North American gemology, the hue midway between red-orange and orange; hence more orange than red.

reddish violet. In North American gemology, the hue midway between red-violet (purple) and violet.

reddish yellow. A hue which would correspond roughly with **orange-yellow.**

red flame opal. Opal that exhibits pronounced streak or streaks of red.

redmanol. Name of a phenol resin molding composition and varnish somewhat similar to bakelite.

red-orange. In North American gemology the **hue** midway between red and orange. Same as **orange-red.**

red-purple. Same hue as **reddish violet.**

red schorl. Rutile.

Red Sea pearl. (1) A **fine pearl** from the waters of the Red Sea, principally from its southern end. From *Margaritifera vulgaris*, and mostly marketed through Bombay. See **Bombay pearl.** (2) An incorrect term which has been used for **coral** fashioned as a bead.

red top moss agate. Mocha stone with red stain at base of the black dendritic inclusions.

reduction. Chemical loss of oxygen.

red-violet. In North American gemology the **hue** midway between red and violet. The same hue as purple.

red-yellow. The same **hue** as orange, which is midway between red and yellow.

reflected light. Light that has been reflected from any surface; hence, any light not traveling directly from the sun, or lamp, or other source. See **reflection, transmitted light.**

reflection. The returning or deflection of light which strikes a surface.

reflection or **reflecting goniometer.** See **goniometer.**

reflectometer. Same as **total reflectometer.**

refraction. Bending of light rays. The deflection from a straight path suffered by a ray of light as it passes obliquely from one medium into another in which the velocity of the ray is different, as from air into water, or from air or water into a gem mineral. See **R.I. refractive index; D.R.; double refraction.**

refractive. Having the power to refract.

refractive index (pl. indices). The ratio of the sine of the **angle of incidence** to the sine of the **angle of refraction.** A measure of the amount a light ray is bent as it enters or leaves a given substance, expressed by numerals that indicate the comparative bending power of different substances such as gems. The index (R.I.) of a vacuum is 1.00, of water, 1.33, fluorite 1.43, methelyne iodide 1.742, rhodolite garnet 1.76. Different specimens of the same species usually show slightly different R.I.'s and the range of differences is indicated thus: Pyrope 1.74-1.75. Furthermore, the R.I. of any doubly refractive mineral varies, and it is customary to indicate the highest and lowest values, which in this book are indicated thus: Quartz, R.I. 1.54/1.55. In addition, since different specimens usually show slightly different R.I.'s, the range of such differences is indicated thus: Corundum, R. I. 1.76/1.77-1.77/1.78. See **refraction; index of refraction; double refraction; mean refractive index; R.I.**

refractometer (ree" frak tom' e-ter). Any optical instrument used for measuring the **refractive index** of any solid or fluid substance. Refractometers used for gemology are almost universally based upon the measurement of the variation of the critical angle in a hemisphere or prism of highly refractive glass; such variation is produced by placing the specimen to be tested in contact with the reflecting surface of the dense glass prism or hemisphere. An instrument of this type is also known as a *total reflectometer*. Gemological refractometers usually read R.I. of

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either mounted or unmounted stones, directly on an enclosed scale. By use of **monochromatic light** and by revolving the stone on the hemisphere (or by revolving the glass and stone together) the highest and lowest **R.I.** of many stones may be obtained, as well as the **birefringence.** See **Rayner, Tully, Erb & Gray,** and **Smith refractometer.**

refrangibility. The capacity of being refracted. See **refraction.**

refrangible (ree-fran'ji-bl). Capable of being refracted, as rays of light. See **refraction.**

Regent Diamond. A French crown jewel usually on display in The Louvre in Paris. A 410-c. Indian diamond, it was cut into a brilliant weighing 143.2 m.c. according to Farrington, or 140.5 m.c. according to Smith.

Regent Pearl. Same as **La Régente Pearl.**

Registered Jeweler A. G. S. An annually awarded and advertised membership classification in the American Gem Society signifying that a retail jewelry store has met the standards of that Society, and is continuing to do so and to observe its rulings which are designed for the protection of the buying public. Every such store has a gem buyer or salesman in the store, who is also classed as a Registered Jeweler American Gem Society, by virtue of having passed the Society's examinations in the fundamentals of gemology, precious metals and silverware, and in the grading of diamonds. See **Certified Gemologist.**

regular system. Same as **isometric system.**

reniform. Kidney-shaped.

repeated twin or **twinning.** See **twin** or **twinning.**

reproduction. A term used to include **reconstructed stones, synthetic stones,** and, less accurately, **cultured pearls,** in a manner similar in its application to the use of the word for the finer copies of original works of art. Imitation stones are not reproductions as they differ structurally or chemically from the stones they imitate. See also **imitations; synthetic stone.**

resin (rez'in). A solid to semisolid, transparent to opaque organic substance (from plants). Usually yellow to brown in color, but resins—especially the synthetic products—may occur in almost any color. See **fossil resin.**

resinoid. Same as **bakelite.**

resin opal. Honey-yellow, to ochreous-yellow variety of common opal with a resinous luster.

resinous luster. Luster like that of natural yellow resins.

Retger's salt. Thallium silver nitrate which, when melted at 75° C. to a yellow liquid, has S.G. of

4.6; lower S.G. if diluted. A **heavy liquid.**

reticulated (ree-tik'ue-late"ed). Having slender crystals or fibers crossing like the meshes of a net.

retinalite. A variety of massive pale greenish yellow **precious serpentine.**

retinite. A fossil resin.

"Rhine Diamond." Colorless beryl. (King).

rhinestone. (1) Historically, rock crystal. (2) *In the jewelry trade, of U.S.A.*, the commonest usage is for foil back imitations of diamond but term is sometimes used for other colored foil backs and occasionally for colorless glass.

rhodochrosite. A semitranslucent, light red, yellowish, or brownish, rarely used ornamental stone. Hex. $MnCO_3$; H. 4; S.G. 3.5-3.7; R.I. 1.60-1.82. Bi. 0.22. From Argentine, and other sources.

rhodoid. An artificial resin (cellulose acetate) used to imitate amber S.G. about 1.28; R.I. about 1.49. (Anderson).

rhodolite. A beautiful, transparent, light red-purple to purplish-violet garnet,. frequently mistaken in the trade for an almandine. Mineralogically classed by some as pyrope variety, by others almandine variety, but gemologically a distinct species. Composition, two molecules of pyrope, one of almandine. Iso. H. 7¼; S.G. 3.84; R.I. 1.74-1.76. From North Carolina and probably Ceylon. Rare.

rhodonite (roe'doe-nite). A translucent to opaque, pink or rose, to red-brown ornamental mineral. Rose-colored is used principally in Russia, for brooches, beads, buttons, Easter eggs, etc. Tri. $MnSiO_3$; H. 5.5-6.5; S.G. 3.4-3.7. R.I. 1.71/1.73-1.73/1.74. Bi. 0.011 to Bi. 0.013. From Siberia, New Jersey, and elsewhere.

rhomb (rom or romb). In crystallography, a form bounded by three parallel pairs of lozenge-shaped faces.

rhombic (rom'bik). Four-sided; each side of equal length but not at right angles to each other as a rhombic facet.

rhombic dodecahedron. See **dodecahedron.**

rhombic facet. See **rhombic.**

rhombic system. Same as **orthorhombic system.**

rhombohedral system (rom''boe-hede'ral). A division of the hexagonal system. See also **crystal systems.**

rhomboid. A **parallelogram** in which there are no right angles and the adjoining sides are of unequal length.

rhomboidal. Shaped like a **rhomboid,** as a rhomboidal facet.

"rhyolite glass." Obsidian.

R.I. Abbreviation for **refractive index.**

riband agate. A variety of banded agate with especially wide bands which, according to Bauer-Spencer, are plane or uniformly curved, without indentures or prominences. See **banded agate.**

riband jasper. Banded jasper with ribbon-like stripes of alternating colors. See **Egyptian jasper.**

ribbon agate. Same as **riband agate.**

ribbon jasper. Same as **riband jasper.**

rice jade. Descriptive name used by the Chinese for a particular quality of jade.

rice stone. Steatite the color of unpolished rice.

Richelieu pearl. A brand of imitation pearl.

ricolite. A green banded serpentine.

ring agate. Agate with concentric rings but with less distinct color contrasts than **eye agate.**

ring-around. Term applied by American fishermen to a pearl having a discolored ring around it.

ring stone. (1) Any stone usable in a finger ring. (2) A trade term for any facetted stone with crown consisting of large table.

Rinne, Frederich Wilhelm Berthold, (1863-1933). Professor, University of Leipsig, Germany. Author *Crystals and the Fine Structure of Matter.*

ripe pearl. A rarely used term for pearl which is nacreous and of good luster, in contrast to unripe pearl, which is of inferior nacre or luster. See **unripe pearl.**

river agate. Pebble of mocha stone or moss agate from a stream bed.

river pearl. A fresh-water pearl.

river sapphire. Light-colored sapphire from Montana.

R. J. Abbreviation for **Registered Jeweler, A.G.S.**

roasting. Heating at a low red heat with a strongly oxidizing blowpipe flame, for the purpose of driving off sulphur, arsenic, etc.

robold pearl. A trade term for a pearl which is not quite round.

rock. Any mineral or aggregate of minerals comprising an important part of the earth's crust. Rock may consist of a single component, as a limestone, or of two or more minerals (Kraus and Hunt). Lapis lazuli is a rock of the latter kind. See **stone; mineral.**

rock amber. Same as **block amber.**

rock crystal. Clear, colorless quartz.

rock glass. Obsidian.

"rock ruby." Red pyrope garnet.

rock turquoise. Turquoise matrix with scattered specks of turquoise.

"Rocky Mountain ruby." Garnet.

Roebling Benitoite. Same as **Eacret Benitoite.**

Roebling Black Opal. A 355.19 c. cabochon-cut black opal from Virgin Valley, Nevada.

Roebling Opal. An opal in the U. S. Nat'l. Museum (Smithsonian Institution) said to be the largest mass of precious opal known, weight 2610 c. (Foshag). From Virgin Valley, Nevada. See **Roebling Black Opal.**

Roentgen or **Röntgen ray.** Same as **X ray.**

rogueite. A local trade name for greenish jasper from gravels of Rogue River, Oregon.

Rohrbach's solution. Solution of barium mercury iodide in water. S.G. 3.58. A **heavy liquid.**

rolled pebbles. Pebbles which have been worn by transportation in water to a comparatively smooth and round shape.

Romanian amber. Same as **Rumanian amber.**

romanite. Same as **rumanite.**

Roman pearl. A sphere of opalescent glass with interior coated with **essence d'orient** and then filled with wax.

romanzovite (roe'manz-oe-vite). Dark brown **grossularite** garnet; from Finland (Schlossmacher).

rondel. Same as **rondelle.**

rondelle (ron-del'). A thin disk of gemstone, metal or other substance pierced through the center for use between beads in necklaces. Its edges are usually facetted. but if not its shape is that of the **lentil.**

rosaline (roe'za-lin). Thulite.

rosa pallido coral (Italian). Pale red coral.

rosa vijo coral (Italian). Vivid red coral.

rose agate. Local name for a grey and rose banded agate from Brewster County, Texas.

rose beryl. Same as **morganite.**

rose cut. A style of cutting, the bottom of which is wide, flat and unfacetted, and the top of which is somewhat dome-shaped, is covered with facets, and terminates in a point. Now confined to small stones.

rose garnet. (1) Rhodolite. (2) Trade name for an ornamental stone containing rosolite, vesuvianite, wallastonite, etc., from Xalostoc, Mexico. See page 259.

roseki. Term used by Japanese for agalmatolite or figure stone (Webster).

"rose kunzite." Pink synthetic sapphire or spinel.

roselite (roe'ze-lite). Name correctly applied to a triclinic nongem mineral, and sometimes incorrectly to a pink garnet. See **rosolite.**

"rose moonstone." Pink scapolite.

rose opal. Same as **quincite.**

rose pearl. Pink, iridescent, fresh-water baroque **pearl.**

rose or rosee pearl (roz-ay′). Name for pearl with rosy or pinkish **overtone** or **orient.** The most highly regarded orient. See **cream rosée pearl; fancy pearl.**

rose quartz. Pink or rose, translucent to semitransparent gem and ornamental variety of quartz; often diasteriated. Such a **diasteria** is often backed by a blue reflective substance to imitate **star sapphire.** See **star quartz.**

rose topaz. Light rose to lilac colored topaz. See **pink topaz.**

rosette. Same as **rose cut.**

rosin (ros′in). A variant of resin.

rosinca. Trade name for banded rhodochrosite from Argentina.

rosolite. A rose-pink grossularite garnet from Xalostoc, Mexico. Same as **landerite.**

Rospogli, Rospoli, or **Ruspoli sapphire.** A 135-carat, flawless, brownish sapphire in Museum of Jardin des Plantes, Paris.

rosso coral (Italian). Red coral.

rosso scuro coral (Italian). Dark red coral.

rosterite. Rose-red beryl.

rothoffite. Yellow to brownish andradite garnet.

rottenstone. An abrasive powder; principally silica from decomposed limestone. Used in final polishing of colored stones. See **tripoli.**

rouge (roozh). Formerly prepared by reducing hematite to fine powder. Now a red amorphous powder consisting of ferric oxide; used for polishing metals.

rough. Trade term for any gem mineral which has not yet been cut and polished.

rough gem or **gem mineral.** One which has not been cut and polished.

roumanite. Same as **rumanite.**

royalite. Trade-marked name of a purplish red glass.

royal topaz. Blue topaz.

rozircon (roe″zur-kon′ or roe-zir kon). Trade-marked name of a pink synthetic spinel.

rubace. See **rubasse.**

rubasse (roo-bos′). Quartz colored red by numerous small scales or flecks of hematite or oxide of iron. From Brazil, and other sources. Imitated under same name, or name *rubace,* by red stained crackled quartz.

rubellite (roo′bel-ite). Red tourmaline.

rubicelle (roo bi-sel). Yellow to orange-red spinel.

Rubin (German). Ruby.

rubino-di-rocca (Italian). Red garnet of violet tinge.

rubis (French). Ruby.

rubolite. A variety of red **common opal.** From Texas. (Merrill).

ruby. (1) Corundum of vivid to dark red to purplish red

color, the lighter tones of these hues being known as pink sapphire; (2) a color designation meaning bright red to violetish red, as in **ruby glass, ruby spinel,** etc.

ruby balas. Balas ruby.

"ruby cat's-eye." Term applied to girasol ruby with a **chatoyant effect.** Although a true cat's-eye is theoretically possible in a ruby, as well as in any gem species yielding asterias, a well defined single band of light occurs rarely. See also **girasol.**

ruby glass. Bright red glass.

ruby juice. Transparent red lacquer sometimes used for coating pavilion of stones. See **lacquer back.**

ruby matrix. (1) Any rock embedded with red corundum; (2) especially that which consists of **smaragdite** and red corundum found in Clay Co., N. C., and sometimes cut cabochon.

"ruby sapphire." A term sometimes used for **almandine sapphire** or **amethystine sapphire.**

ruby spinel. Ruby-colored or red spinel.

ruby tin. Red **cassiterite.**

ruin agate. Agate with markings which resemble the outlines of ruins.

ruin marble. Calcite with markings of iron oxide resembling ruins.

Rumanian amber. Same as **rumanite.**

rumanite (roo'man-ite). Yellow-brown to red, also black amber, containing cracks. Workable, and rarer than **succinite.** Rarely yellow, sometimes black. Fluorescent varieties are even more frequent than in simetite and are sometimes greenish or bluish.

Russian alexandrite. Alexandrite from Urals which occurs in smaller sizes than **Ceylon alexandrite.** Also more bluish (Smith).

Russian amethyst. See **Siberian amethyst.**

"Russian chrysolite." Same as **"Uralian chrysolite."**

"Russian crystal." Colorless selenite.

Russian emerald. Emerald from the Starka, Takovaya and other tributaries of the Bolschoi Reft in the Urals, Siberia, generally of inferior quality to **Colombian emerald.** See **Takovaya.**

Russian jasper. Red flecked jasper. (Eppler)

Russian jet. Jet from Irkutsk, Siberia.

Russian lapis. (1) Trade term for lapis lazuli, from the Russian Badakshan near the border of Afghanistan, or for **Afghanistan lapis** exported through Russia. (2) A term which can be accurately applied to an inferior quality of lapis lazuli from Lake Baikal, in Siberia.

Russian topaz. Same as **Siberian topaz.**

rutee or **ruttee** (Anglo-Indian). A pea-like scarlet seed of the licorice, used as a weight; about 1.75 grains troy. Same as rati or ratti; see also **tank.**

rutilated quartz. Same as **sagenitic quartz.** See **rutile.**

rutile (roo'teel or roo'til). A transparent-to-opaque, brownish-red-to-black mineral of higher R.I. than diamond. Sometimes cut for collectors. Important as acicular inclusions in many gem stones Tetr. TiO_2; H. 6-6½; S.G. 4.2-4.3; R.I. 2.62/2.90; Bi. 0.287. From Italy, Switzerland, North Carolina, and other sources.

rutilio. (Span.) Rutile.

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S

S. Abbr. for the element sulphur.

sabalite. Same as **trainite.**

"sacred turquoise." Pale-blue **smithonsite.** (Merrill)

saffronite or **safronite.** A little-used coined word recommended by 1933 B. I. B. O. A. conference to supplant topaz as then used by jewelers to mean citrine or **topaz quartz.**

safirina (Port.). Misnomer for blue spinel or quartz.

sagathai. Burmese term applied to ½ carat rubies.

sagenite. (1) Same as **sagenitic quartz** (Kraus and Holden). (2) Needle-like crystals of rutile crossing at 60° angles. Also similar crystals of rutile, tourmaline, goethite, etc. penetrating rock crystal (Standard). (3) Reticulated twin groups of crystals such as in **sagenitic quartz.** (Dana). The word is derived from Latin *sagena,* meaning a large net.

sagenitic quartz. Term used for transparent colorless or nearly colorless quartz containing needle-like crystals of rutile, actinolite, goethite, tourmaline or other mineral, regardless of the manner in which the crystals are arranged. See **sagenite; rutilated quartz.**

Saint Edward's Sapphire. Fine blue sapphire reputedly worn by King Edward about 1042. Recut as a rose and now in diamond-paved cross which surmounts the British Imperial State Crown.

Saint Stephen's stone. Translucent whitish or greyish chalcedony sprinkled with small red spots.

sakal (Egyptian). Amber.

"Salamanca topaz." Citrine from Cordova; not from Salamanca. Same as **"Hinjosa topaz."**

salam stone. (1) Term used in the Orient for **sapphire.** (2) Variety of transparent pale red or blue sapphire found chiefly in Ceylon. (Standard).

salis gem (Obsolete). Moonstone.

salting. Scattering upon the surface or digging into the ground, gems or particles of gold or other rich ore to make a mine or reputed mine appear rich.

salt-water pearl. Any pearl from any salt-water mollusc, including **Meleagrina, Mytilidae, Pinna** and **Haliotidae.**

samadiam pearl. Ceylonese trade

grade for a pearl of reddish hue, pear shaped, but dull. (Kunz)

samarskite. Dana classifies as a nearly opaque velvety black mineral; Ortho. H. 5-6; S.G. 5.6-5.8; from Russia, Madagascar, N. C. etc. According to Pough is sometimes cut for collectors.

sammatti. Singhalese name for master of a pearl fishing boat.

sammyi. Alternate Burmese name for **byon.**

samotsvet. An ancient Russian word for a natural colored stone.

Sancy Diamond. A famous diamond from India weighing 55 m.c. which belonged successively to English, French and Indian sovereigns. Now owned by Lord Astor.

sandalwood jade. A descriptive term used in China for a particular variety of jade.

sanding. See **glazing.**

"San Domingo amber." A **fossil resin** from San Domingo, West Indies. A variety of retinite. Transparent and rarely if ever cloudy. Yellow to brownish. Typically with blue fluorescence. (Schlossmacher)

sandstone. A rock consisting of old beds of sands or very small rounded gravels or both, bound together by natural cement which is usually of light hue.

sandstone opal. A contraction of *sandstone boulder opal.* A variety of **boulder opal** in which thin layers of opal occur in boulders between layers of sandstone and soft clay. See page 259.

sandy sard. Sard dotted with darker spots.

Sang-i-yeshan. Bowenite from northwestern China.

sanguinaria. A Spanish name for (1) heliotrope; (2) hematite. See **piedra de sangra.**

sanidine. A colorless or white to yellowish or greyish variety of **orthoclase,** of which the transparent colorless to yellowish varieties are often cut for collectors.

"saphir d' eau." (French, water sapphire.) Iolite.

saponite. A very soft white, greenish, bluish or reddish mineral; S.G. 2.2-2.3; R.I. 1.48-1.52. From Scotland, Ontario, Minn., Mich., and other sources. See **soapstone.**

sappare. Translucent cyanite. (Merrill).

sapphire. As generally used, refers to any gem **corundum** other than red. By some, considered as only the fine blue corundum, other varieties being classed as **fancy sapphire.** The word *sapphire* is also used as an adjective to describe blue varieties of other species, as **sapphire spinel.**

sapphire cat's-eye. Term often applied to **girasol sapphire** with a chatoyant effect. Although a true cat's-eye is theoretically possible in sapphire, a well-de-

fined single streak of light occurs rarely. See **"ruby cat's-eye."**

sapphire glass. Sapphire-blue glass. One variety of unknown composition has exceptional hardness up to 6¾.

sapphire quartz. Opaque coarse-grained quartz aggregate, colored blue by included fibers of silicified crocidolite, which unlike **hawk's-eye** are not in parallel arrangement. (Eppler & Smith). See page 260.

sapphire spar. Cyanite with opalescence or girasol effect.

sapphire spinel. Sapphire-colored spinel. An unrecommended term; derivation similar to that of **ruby spinel.**

"sapphirin" or **"sapphirine."** Names used for (1) blue quartz or chalcedony; or (2) blue spinel; or (3) a blue cobalt glass. Sapphirine is also the correct name of a mineral of no gem interest.

sapphiros. Ancient name for lapis lazuli (Pliny), and sometimes azurite, or probably any opaque dark blue stone.

sappir. A foreign word Hebraicised. Almost every authority is agreed that the modern lapis lazuli is the stone described under that name. Fifth stone in the Breastplate of the High Priest. Old versions of Bible translate as *sapphirus* or *sapphiri*, but most probably a lapis lazuli. Engraved with the name Issachar. (Cooper)

sard. Translucent brown to reddish-brown or yellowish-brown chalcedony. See also **carnelian.**

sardachate. (1) Carnelian agate (Standard) (2) Sard.

sard agate. Banded agate similar to sardonyx in coloring except bands are not straight and parallel.

Sarder (German). Sard.

sardium. A name for **sard** which has been artificially colored brown.

sardoine (Fr.) Sard.

sardónice (Span.). Sardonyx.

sardonyx (sar'don-iks). Chalcedony (agate) with straight parallel bands or layers of reddish-brown to brown alternating with other colors. Name is used incorrectly for (a) carnelian and, (b) more often, for **sard** or **carnelian onyx.** See page 260.

sard stone. Name variously applied to (1) sard; (2) sardonyx.

satelite. A trade name for fibrous **serpentine** from Tulare County, California, with slightly **chatoyant effect.**

satin spar. (1) Translucent fibrous, silky white **gypsum.** When cut cabochon, has a pearly **chatoyant effect.** From England, Russia and other sources. (2) less correctly **aragonite** (calcite) of the same description which is more accurately called calcite satin spar. See **Niagara spar.**

satin stone. Same as **satin spar.**

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saturated solution. A liquid in which has been dissolved the maximum possible amount of another substance.

saussurite. A jade substitute. A compact altered feldspar consisting chiefly of **zoisite.** Greenish or white. H. 6-7; S.G. 3.2-3.3; R.I. 1.70/1.70. From Switzerland, Lake Superior and elsewhere.

sawing. In fashioning, this process of grinding a narrow slit through a gemstone is usually accomplished by a metal disc charged with an abrasive. Phosphor bronze charged with diamond is used for diamonds and other valuable gemstones, sheet iron and diamond for less valuable ones, and the **mud-saw** for inexpensive ones.

"Saxon or **Saxony chrysolite."** Pale greenish-yellow topaz.

"Saxon" or **"Saxony diamond."** Topaz.

"Saxon" or **"Saxony topaz."** (1) Incorrect term for citrine. (2) Correct term for genuine yellow topaz from Saxony, although rarely used in U.S.A.

Sb. Abbr. for the element antimony.

scale. (1) The portion of a weighing instrument which holds the object to be weighed. (2) The weighing instrument or balance itself, as the **Berman balance.** (3) A series or group of lines or graduations placed on some substance. (4) In *descriptive mineralogy,* same as a plate or **tabular crystal.**

scaly. In mineralogy consisting of scales or **tabular crystals.**

scapolite. A group of minerals consisting of meionite, wernerite, mizzonite, and marialite. In gemology no distinction is made between them, all being called scapolite. Gem varieties are very rare and are transparent to translucent; yellow, pink, blue or violet. The last three produce well-defined cat's-eyes (rare). Tetr. H. 6.5; S.G. 2.6-2.7; R.I. 1.54/1.55-1.55/1.57; Bi. 0.016-0.022; Disp. 0.016. From Brazil and Madagascar (yellow only) and Burma (all gem colors).

scarab. A gemstone or other substance fashioned into a conventionalized representation of a *Scarabaeus* beetle which, especially *Scarabaeus sacer,* was worshipped by ancient Egyptians as a symbol of fertility and resurrection. Fashioned by them in minerals, metals or ceramics, especially faience, with inscriptions on the base. Were used as talismans and ornaments and were buried with the dead. These and modern scarabs have been mounted in jewelry, especially finger rings. Their intaglio-cut bases are also used as seals. All modern seal rings are probably a development of the scarab and the **cylinder.**

scenic agate. Practically same as **landscape agate.**

scepter quartz. Quartz forming

in a crystal resembling a scepter in shape.

"Schaumberg diamond." Rock crystal from Schaumberg, Germany.

Schettler Emerald. Emerald weighing 87.64 carats; cut in India. In Am. Mus. Natural Hist. N. Y.

schiller. A **phenonenom** related to **sheen.** An almost metallic iridescent shimmer seen just below the surface in certain directions in certain minerals as in bastite, bronzite, hypersthene, etc. Differs markedly in appearance from any other optical phenomenon except adularescence and aventurescence.

"schiller chrysolite." Misnomer for **chrysoberyl cat's-eye.**

schiller obsidian. Obsidian with schiller effect.

schiller quartz. Quartz cat's-eye.

schiller spar. Same as **bastite.**

schist (shist). A metamorphic rock with a highly developed parallel or foliated structure, along which it splits easily.

Schlossmacher, Dr. Karl (1887-). Director, Mineralogical and Petrographical Institutes of Konigsberg, East Prussia. Author, 3rd Edition of Bauer's *Edelsteinkunde* (completely revised), Leipsig, 1932; *Praxis der Edelsteine-Bestimmung,* 1937.

schmelze (glass). (1) Any one of the various kinds of decorative glass especially the variety that is colored red with a metallic salt, as copper or gold, and used to flash white glass (Standard). (2) A term which has been defined, apparently in error, as a particular kind of ancient glass which was green in color, but red by transmitted light, similar to **Solomon's gem.**

Schmuckstein (German). A term which distinguishes either "semi-precious" or ornamental stone from *Edelstein.*

Schnecken or **Schneckenstein topaz.** Genuine topaz. Same as **Saxon topaz.**

schnide. Bluish glassy common opal from Queensland.

schorl. (1) Black tourmaline; (2) An old name for the tourmaline species.

Schwefelkies (German). **Pyrite.**

"scientific brilliant." Term unsuccessfully coined for early synthetic colorless sapphire (Smith).

"scientific emerald." (1) Originally a misleading trade name for emerald-colored beryllium glass. (2) Any green glass imitation of emerald.

scientific gem. Same as **scientific stone.**

"scientific ruby." Red glass.

"scientific sapphire." Blue glass.

scientific stones. A term correctly used for reconstructed or synthetic stones, but often used misleadingly for various imitations.

"scientific topaz." (1) A name for the first synthetic sapphires which were pale pink (Smith). (2) Topaz-colored glass.

scintillation. In North American gemology, the flashes of light from numerous facets. The sparkling of light from these facets as distinguished from **brilliancy** or the amount of light reflected by the stone.

scissors cut. A modification of the step cut which increases the **scintillation** of stones of lower **R.I.** such as quartz, beryl, topaz, tourmaline, etc., by breaking up the long running facets, next the girdle, into four triangular facets, and usually the corner facets into two or four facets of triangular or other shapes.

sclerometer. An instrument for determining the degree of hardness of a mineral by measuring the comparative pressure necessary to scratch it with a moving diamond point.

scoop stone. A name for amber dredged from Baltic Sea.

scorpion stone. Coral or jet.

"Scotch" pebble. One of several varieties of quartz, chiefly cairngorm.

"Scotch" or **Scottish pearl.** Fresh-water pearl from Scotland.

"Scotch" or **Scottish stone.** Cairngorm.

"Scotch or **Scottish topaz."** Same as **topaz quartz.**

screw micrometer. See **micrometer.**

sea amber. Amber which has been scooped from the ocean or found on the beaches. Its surface is devoid of the incrustations natural to mined amber unless they have been artificially removed to imitate sea amber. See **scoop stone.**

seal sapphire. A seal-brown silky variety of sapphire, usually a **girasol;** sometimes **epiasterated.** Same as **adamantine spar.** See page 260.

seam. A thin vein; also a bed in stratified (layered) rocks, as a seam of coal.

seam opal. Masses of common opal with bands of precious **white opal** from White Cliffs, N.S.W., Australia. See page 260.

sea pearl. Same as **salt-water pearl.**

seastone. Amber.

seaweed agate. A descriptive term for certain specimens of **mocha stone** or **moss agate.**

Seberget. Same as **Zeberged.**

secondary deposit. A deposit consisting of minerals (1) which have been altered or decomposed from minerals which occupied the same deposit, or (2) which have been transported from the place in which they were formed, as into an **alluvial deposit** (for instance, the secondary deposits of sapphires in gem gravels).

secondary twinning. Twinning produced subsequently to the

Titles within quotation marks are misnomers. Every unusual word or term used is defined in this book and if printed in **bold faced type** its entry should be consulted. To fully understand the definitions, read the introductory pages.

original formation of a crystal, or crystalline mass, due to pressure, causing the inversion of the atomic pattern of the crystal structure in certain lamellae. The cause of parting. (Wigglesworth)

sectile. Capable of being cut as into slices or shavings.

sedimentary. Produced by, or pertaining to, sedimentation. See **sedimentation.**

sedimentation. Process of rock or mineral formation by consolidation of material transported from its place of origin.

seed pearl. A name for any **true pearl** of rounded irregular shape weighing less than ¼ **pearl grain.**

selective absorption. See **absorption.**

selective reflection. The reflection by a substance, such as an opaque gem, of light rays of only certain wave lengths, the others being absorbed. This cause of color in gems is a sort of selective **absorption.**

selenita (Span.). Moonstone (feldspar).

selenite (sel′e-nite). Colorless **gypsum** occurring in crystals or large cleavage masses. Used as an **ornamental stone,** especially in Russia.

selenites. (Obsolete) Moonstone.

semeline. Same as **spinthere.**

semence (Fr.). **Seed pearl.**

semibastard amber. Partly cloudy **bastard amber.**

semicarnelian. An old and undesirable name for yellow **carnelian.**

semicrystalline. Partly crystalline or partly amorphous.

semigenuine doublet or **triplet.** See **doublet, triplet.**

semiopal. Term loosely used for (1) common opal; (2) hydrophane; (3) any partially dehydrated common opal.

semiprecious stones. An indeterminate and misleading classification based on species or varieties and not on individual stones and including all gem species ranking below precious, an almost worthless sapphire, pearl, etc., being precious, a fine costly cat's-eye or jade. etc., being semiprecious. B. I. B. O. A. has recommended that term be eliminated in the principal European languages and replaced in English by **gemstone. A.G.S.** rules its members shall not employ term. See also **precious stones; ornamental stones; decorative stone.**

semitranslucent. A degree of diaphaneity between translucent and opaque. Passes light through edges of cabochons but very little through thicker parts.

semitransparent. A degree of diaphaneity between transparent and translucent. Objects may be seen, but imperfectly, through thick sections of semitransparent material, and quite clearly through thinner parts.

"semiturquoise." A term which has been used for soft pale blue turquoise or turquoise-like mineral.

sepiolite (seep'ee-o lite). A white to grey or light yellow, partly amorphous ornamental mineral used especially for pipes, cigar and cigarette holders, etc. H. 2-2.5; S.G. 2; R.I. varies from 1.52-1.53.

serpentine. A translucent-to-opaque mineral of many colors. Has been used for cameos, intaglios, and as an ornamental or decorative stone. Only greenish gemstone varieties of gemological importance, principally as jade substitutes. Mono. $H_4Mg_3Si_2O_9$. H. 2½-4, or rarely to 6; S.G. 2.50-2.65; R.I. varies from 1.49-1.57. Source widely distributed. See **bowenite, williamsite, verde antique; precious serpentine.**

"serpentine cat's-eye." Same as **satelite.**

"serpentine jade." A term sometimes used for **bowenite.**

serpentine marble. Same as **verde antique.**

serpentine ware. A variety of Wedgwood; colored and marked to resemble **serpentine.**

Serra points. Term applied to loose amethyst crystals (detached from their geodes) in Southern Brazil. See **amethyst points.**

Serra stone. Agate from Serra do Mar (Mountains), in the state of Rio Grande do Sul, in Southern Brazil.

setting. Same as **mounting.** More specifically, only that portion of the mounting which actually holds a stone, as distinguished from the rest of the mounting to which the setting is attached, such as the shank of a ring.

S.G. Abbreviation for **specific gravity.**

shade. In color terminology (1) any dark tone of a **hue;** (2) incorrectly used as a synonym of **hue.**

•**shale.** A fine-grained sedimentary rock, formed from beds of clay, mud or silt.

Shah Diamond. Also called Shah of Persia. A famous Indian diamond of 88.77 m.c., only the original faces of which have been polished. Upon three of these faces inscriptions have been engraved. In Treasury of U.S.S.R.

shamir. In Jewish legends a miraculous stone used in engraving the names of the twelve tribes on the stones of the High Priest's Breastplate. Thought to be corundum (emery).

Shanghai jade. Any jadeite or nephrite from Shanghai, China's largest jade market before World War II.

shank pearl. Same as **chank pearl.**

Shark's Bay pearl. Yellowish to

yellow pearl from Shark's Bay, Western Australia. Sometimes classed as **colored pearl.** From *Meleagrina carcharium*.

sharp-cornered emerald cut. A 30-facet **square emerald** cut with but four equal sides, and therefore with a girdle outline which is square.

Shebo or **Shebho.** The eighth stone in the Breastplate of the High Priest. Translated as *achates* (agate). Probably a grey and white banded agate. Engraved with name Benjamin.

sheen. (1) An optical effect due to reflection of light from a position within the stone, in contradistinction to luster. (R. Webster). (2) An optical effect that modifies the luster of a mineral and hence a variety of luster, as the mineralogical definitions of both pearly and silky luster indicate (3) In describing pearl, a term often confused with **orient.**

shell (cutting). A cabochon with base or back hollowed out to lighten the color or to eliminate undesirable inclusions. A garnet so fashioned is called a garnet shell; a sard is called a sard shell.

shell agate. Agate containing silicified mollusc shells.

shell cameo. A cameo carved from shell with raised figure cut from white layers and the background cut away to the darker layers.

"shell cat's-eye." The nonchatoyant operculum or door of the shell of a sea snail (*Turbo petholatus*) from the waters north of Australia to Indo-China. Loose or strung in necklaces is prized by islanders of the East Indies; freely purchased by American servicemen during World War II. Diameter ½ in. to 1 in. Domed, oval or round with markings of yellowish to white and reddish to dark brown and green. Bears no resemblance to the gem cat's-eye, but those with green round centers of variable size, somewhat resemble the eye of a cat in color combinations only. H. 3½; S.G. 2.7-2.8; R.I. about 1.57. See page 260.

sherry topaz. (1) **Topaz** the color of sherry wine. (2) An incorrect name for **citrine** of the same color.

shimmer malachite. Free translation of German *schimmermalachite*; mentioned by Schlossmacher as **malachite** from California showing a slight glitter or glimmer as it is moved about.

shining. Producing an image by reflection, but one not well defined.

Shipley polariscope. A **gemological polariscope** suitable for use in the hand without use of microscope or other magnifier. Can be used in determinative gemology to detect glass imita-

tions and to differentiate between singly and doubly refractive gemstones. A mounted or unmounted stone is held, in an enclosed compartment, by a device which permits its being observed in various positions, affording rapid determination.

Shipley, Robert M. (1887-). Retail jeweler, Wichita, Kanas, 1912-27. European trade and museum research 1927-29. Instructor, University City College, U. of So. Calif. 1929-31. Founder Gemological Institute of America 1931; President 1931-1941; Executive Director 1941-. Founder American Gem Society 1934; Executive Director 1934-. Author *Science of Gemstones*, 1933; *Diamonds*, 1935; *Silverware*, 1940; *Famous Diamonds of the World*, 1939 and 1944. Co-author, *Advanced Gemology*, 1937; *Precious Metals and Jewelry*, 1938; 2nd and 3rd edition 1944; *The Story of Diamonds*, all published in Los Angeles. Compiler, the *Dictionary of Gems and Gemology*, 1944; *Jewelers Pocket Reference Book*, 1948. Author of first North American mail courses in gemology; revised and expanded the present mail courses in gemology with Robert M. Shipley, Jr., and others.

Shipley, Robert M., Jr., (1912-). Director of education and research, Gemological Institute of America, 1932-41. Co-author North American mail courses in Gemology. Co-author *Advanced Gemology*, 1937. Officer U. S. Army Air Corps 1941-. Major A. U. S. 1943-44 (retired). Consultant, Education and Research, G.I.A.

Shoham. The eleventh stone in the Breastplate of the High Priest. Usually translated as **onyx.** Engraved with the name of Gad.

shwelu. In India, a light green jadeite gemstone with spots and streaks.

Si. Abbr. for silicon.

"Siam or **Siamese aquamarine."** An incorrect but rarely used term for blue zircon or for greenish spinel.

Siam or **Siamese ruby.** (1) Any ruby from Siam. (2) Dark slightly brownish or orangy-red ruby, regardless of its source, as distinguished from true red to purplish red **Burma** or **oriental** ruby. (3) Misnomer for dark red **spinel.**

Siam or **Siamese sapphire.** Blue sapphire from Bo Ploi, 200 miles northwest of Bangkok or from Pailin gem district which lies in both Siam and Indo-China. Fine qualities have come from these regions and Siam sapphires are so highly regarded in England that Smith believes sapphire from Burma is sold as the Siam product. In U.S.A., Siam sapphire is a trade term for a dark blue sapphire less desirable than **Burma sapphire.**

Siam zircon. (1) Blue zircon usually from Indo-China. Imported

to Siam as brownish or greyish stones which are usually heat-treated and fashioned in Bangkok before being exported. (2) A zircon from the less important Siamese mines.

Siberian amethyst. A long-established trade term for the desirable deep or reddish-violet or purple amethysts although amethysts now found in the Urals are characterized by the less desirable light violet color.

Siberian aquamarine. Same as **Mursinka aquamarine.**

"Siberian chrysolite." Demantoid garnet.

Siberian emerald. Same as **Russian emerald.**

Siberian garnet. Almandine garnet.

Siberian jade. Nephrite from Siberia, fine almost emerald-green qualities being found in Lake Baikal region.

Siberian lapis. Lapis lazuli from south of Irkutsk, near Baikal. Seldom as fine color as other **Russian lapis,** or as Afghanistan lapis, but more translucent and with fewer pyrite inclusions. Dark blue; also violet, dark green, and light red. (Schlossmacher)

"Siberian ruby." Rubellite from Urals.

Siberian topaz. A term used for (1) **Uralian topaz;** (2) colorless, bluish, or yellow to brown topaz from Trans-Baikal, in the region around Nerchinsk; and (3) blue, yellow or green topaz from Kamchatka (Schlossmacher).

Siberian tourmaline. Light violetish red (rubellite) to violet tourmaline from the Urals.

siberite. A purplish **rubellite.**

Sicilian amber. Simetite.

siderite (sid-er-ite). (1) A name for **sapphire quartz.** (2) More correctly the name of a mineral species of no gemological interest.

Siegstein (German, meaning "victory stone.") Has been applied to **star sapphire.**

Siegstone. Incorrectly coined word combining English and German. See **Siegstein.**

silex. (1) Same as silica. (Standard). (2) Incorrect name for striped jasper, similar to banded jasper. (Schlossmacher).

silica. A white or colorless, extremely hard, crystalline silicon dioxide (SiO_2) found pure as quartz, in many rocks and sands, and combined with various other metallic oxides in all the silicate minerals, a group of minerals which yield many gem varieties. See page 260.

silica glass. (1) A pale yellowish-green natural glass, 98% silica much more than in moldavite or obsidian. Discovered 1932 on Libyan Desert. H. 6; S.G. 2.2; R.I. 1.46 (Smith). Slightly opal-

escent (Anderson). (2) An artificial glass made by fusing quartz in oxyhydrogen flame. H. 5; S.G. 2.2; R.I. 1.46 (Smith); H. 6; S.G. 2.2; R.I. 1.44 (Schlossmacher).

silicate. Any mineral or rock of which silicon is an important constituent.

siliceous or **silicious.** Of, pertaining to, or containing **silica.**

"siliceous malachite." Green **chrysocolla.**

silicified (si-lis'i-fide). Converted into quartz or opal.

silicified wood. A term which includes all those varieties of **petrified wood** that have been converted into **silica.**

silicon carbide. An abrasive of importance in fashioning **colored stones;** powdered in a binder, or molded into fashioning wheels or tools.

silk. Microscopically small inclusions in ruby or sapphire; subsurface reflections which produce a whitish sheen resembling the sheen of silk fabric. Inclusions now generally conceded to be tiny needles of rutile, although some authorities still mention canals or negative crystals. See **pseudosilk.**

silky luster. A silklike sheen, a reflection from fibers in fibrous crystalline aggregates such as tiger eye. See also **chatoyancy.**

sillimanite. Same as **fibrolite.**

"sillimanite cat's-eye." Same as **"fibrolite cat's-eye."**

silt. A fine-grained, uncemented alluvial deposit.

silt pearl. See **mud pearl.**

"Silver Peak jade." Local Nevada term for **malachite.**

silver stone. Moonstone.

"simaostone." Simav opal.

simav opal or **stone.** Opal from mine near city and sea of that name N. E. of Smyrna, Turkey. Colorless, milky or brownish; also yellow, orange or red varieties, some with same play of color as that in **fire opal.**

simetite (sim'e-tite). Amber from the waters off Sicily. Red to light orange yellow or brown, contains less succinic acid; usually darker than succinite. Also strong yellowish green or bluish sheen, due to fluorescence. Better known as Sicilian amber.

simili. A name for lead glass imitations of colorless gemstones.

"Simon stone." Simav opal.

simple cabochon. See **cabochon.**

simulated hematite. See **imitation hematite.**

simulated stone. Any substance fashioned as a gemstone which imitates it in appearance. An advertising term widely used in U. S. A. but not often by better jewelry stores.

Sinai turquoise. Turquoise from ancient mines of Sinai Penin-

sula, Egypt.

Singhalese. The race which constitutes majority of Ceylon's population. Used synonymously with Ceylonese.

Singhalese cat's-eye, Singhalese garnet, etc. Same as **Ceylon cat's-eye, Ceylon garnet,** etc.

single bevel cut. A style with beveled sides, flat top and flat base, used for opaque stones.

single cabochon. Same as **simple cabochon.**

single circle goniometer. See **goniometer.**

single cut. A brilliant form of cut with but eighteen facets, eight bezel, eight pavilion, a table and a culet.

single refraction. When a ray of light enters a crystal of the isometric system, or an amorphous substance, it is refracted in the normal manner; this is single refraction in contradistinction to **double refraction.**

singly terminated crystals. See **termination.**

Sinkiang jade. Nephrite fom Sinkiang, Chinese Turkestan.

sinopal or **sinople.** An aventurescent quartz with inclusions of a red iron mineral. From Hungary.

"Sioux Falls jasper." A decorative brown jasper - like fine-grained quartz, from Sioux Falls, So. Dakota. Used for tables and interior architectural trim.

Siriam garnet. (1) Almandine garnet. Same as **Syriam garnet.** (2) Same as **grenat Siriam.**

sirippu pearl. Ceylonese trade grade for a pearl grooved with irregular wrinkle-like furrows. (Kunz).

skeleton crystals. Those with edges defined, but with faces not fully filled in, as crystals of ice on window panes.

skew facet. An old name for eight of the sixteen top break facets on the old stvle cushion-shaped diamond.

skiagram. A name sometimes used instead of **radiograph** for X-ray photograph of pearls.

skill facet. A name for certain top and bottom **break facets.** Now distinguished from other **break facets** only by diamond cutters. Term has also been incorrectly defined as being synonymous with **star facet.**

skin. As applied to pearls, the outer layer of nacre.

skinning. Same as **peeling.**

"slaves' diamond." Colorless **topaz.**

Slawson, Dr. Chester Baker (1898-). Ph. D. University of Michigan, 1925; Assoc. Prof. Mineralogy, 1939-. Educational Advisory Board, Gemological Institute of America, 1934-; Member Examining Board, 1935-.

Educational leader Detroit Guild, American Gem Society, 1936-. Author *The Fluorescence of Minerals,* 1935, and numerous articles. Co-author of *Gems and Gem Materials,* with Edward H. Kraus.

slitting. A term used for the sawing of **colored stones.** Usually accomplished with a thin soft metal wheel or disc which revolves vertically. The operation precedes **grinding.**

slitting wheel. The saw used in **slitting** colored stones.

slug (pearl). Trade term for very irregular distorted fresh-water **pearl** frequently composed of intergrown masses, groups or clusters of small pearls. Often without luster.

slush box. Container about the polishing wheel which collects the **mud** often used in **lapping.**

Smaragd (German). Emerald.

smaragdine (Rare). Of, or pertaining to **emerald.**

smaragdite. A bright green **amphibole,** near actinolite in composition (Dana). A **hornblende,** related to **diopside.** Has been substituted for jade (Schlossmacher). See **ruby matrix.**

smaragdmatrix. Emerald. Feldspar and quartz embedded with emerald.

smaragdolin. Trade name of a Viennese firm for a glass imitation of **emerald** which was usually beryl glass and was sold in boules shaped like those of synthetic corundum. H. 5-5.5; S.G. 3.3.-3.45; R.I. 1.62 (Schlossmacher).

smaragdus (Latin). Emerald; which name, in Latin, includes most green stones.

smeraldo (Italian). Emerald.

Smith, George Frederick Herbert, M.A., D.Sc. (1872-). Ex-Keeper of Minerals and Ex-Secy. British Museum (Natural History). Principal examiner Gemmological Association of Great Britain since 1913; and President since 1942. Author of *Gemstones* (revised 10th edition 1946). Member Educational Advisory Board Gemological Institute of America, Ex-officio Member Examinations Standards Board.

Smith refractometer. A very small **gemological refractometer** of fair accuracy employing a segment of a hemisphere of highly refractive glass in a non-rotating mount. Designed by **G. F. Herbert Smith.** Suitable for use in the hand. See **Rayner refractometer, Tully refractometer, Erb & Gray refractometer.**

smithsonite. A normally unattractive, translucent-to-opaque mineral. The better light-blue qualities sometimes resemble turquoise and the apple-green colors are sometimes substituted for jade or chrysoprase. Those colors and yellow also are often locally

cut as curio stones. Dana applies the term calamine to both smithsonite and hemimorphite. A mixture of these minerals is often sold as smithsonite. Hex. $ZnCO_3$; H. 4.5-5.5; S.G. 4.1-4.6; R.I. 1.62/1.85 (Dana); 1.62/1.82 (Kraus); Bi 0.20-0.23; Disp. 0.017. See page 260.

smoky opal. Smoky-brown common opal.

smoky quartz. Smoky greyish-brown to almost black crystalline quartz. Much of it, by heating, becomes yellow to yellow-brown **topaz quartz.** See **cairngorm, morion.**

"smoky topaz." Smoky quartz.

Sn. Abbr. for the element tin.

soap-rock. Soapstone.

soapstone. Steatite. However, much agalmatolite is loosely called soapstone, as is also **saponite** which, however, is of no gemological interest.

Sobrisky opal. Opal from Lead Pipe Spring district, Death Valley, Calif.

soda-jadeite. Burma jadeite as distinguished from **diopside jadeite.**

sodalite. A translucent-to-opaque deep-blue ornamental mineral sometimes sold locally as a curio stone, or in the trade as substitute for lapis lazuli. Iso. A complex silicate; H. 5.5-6; S.G. 2.2-2.4; R.I. 1.485. From Urals, Italy, Norway, Ontario, Maine, and California.

sodium light. Light emitted by the glowing vapor of sodium, consisting of two sets of light waves of slightly different wave lengths, and commonly considered to be a **monochromatic light.** Used with the **refractometer** to produce more well-defined readings than can be obtained with white light. Special **monochromators,** employing special electric bulbs and special filters, produce similar light consisting of but a few wave lengths, and such light is also popularly known as sodium light.

sodium vapor lamp. A light source derived from an electrical discharge through sodium vapor. Valuable as a source of monochromatic yellow (sodium or D-line) illumination, which when used as illumination in using the usual gemological **refractometer,** assists the efficiency of the instrument (Shipley, Jr.).

"soldered emerald." A name for any **emerald doublet,** but correctly for a fused one only.

soldier's stone. Amethyst.

"solid gold." Term once used incorrectly for gold or any alloy of gold of over 10 parts of gold. Based on the standard of pure gold, consisting of 24 parts. Thus 14 karat gold contains 14 parts of pure gold. See **alloy.**

solidification. The process of changing from a liquid or gas to a

solid, as, for instance, the solidification of molten alumina to solid in the synthesis of corundum.

solitaire (French, *alone*). Used in English to mean a ring containing a single gem and often extended to mean a ring containing one important gem, with comparatively unimportant stones set in the shank (or finger band).

Solomon's gem. Probably paste which was green by **reflected light** and red in **transmitted light.** Said to have been made in Alexandria of the Roman world. See **Schmelze glass.**

Somondoco emerald. (1) In the trade, a term sometimes used for emerald from the Somondoco district, Colombia, and therefore for **Chivor emerald** which constitutes most of the emerald from the district. A few of these are fine quality. (2) More specifically, emerald from the Somondoco mine, which was mined by the Inca Indians, then hidden from the Spanish conquerors.

Sonstadt's solution. An amber-colored saturated solution of potassium mercuric iodide in water. S.G. 3.196 reducible by dilution in water; R.I. 1.733. A **heavy liquid.** Same as **Thoulet solution.**

"Soochow or **Soochoo jade."** Originally a combination of jade and quartz, but a term now used for serpentine, agalmatolite, dyed soapstone and similar jade substitutes.

soudé emerald. Same as **soldered emerald.**

source (of a gemstone). A term used in gemology to mean the geographical location in which a species or variety of gemstone is found or mined.

"South African jade." Same as **"Transvaal jade."**

"South African nephrite." Same as **"Transvaal nephrite."**

South African tourmaline. Same as **Transvaal tourmaline.**

South African turquoise. Turquoise of fine blue color found in limited quantity in Kimberly neighborhood.

Southern Cross Pearl. Same as **Great Southern Cross.**

South Sea pearl. A term which might refer to any pearl found in Oceania or Micronesia, but which is usually used only for **cultured pearl** from Palau or other islands held by Japan before World War II, to distinguish it from pearl cultured in Japan.

space lattice. See **lattice.**

spalmandite. A contraction of spessartite and almandite for garnets of intermediate composition (Spencer).

Spaltbarkeit (German). Cleavage;

cleavability.

Span. Abbr. used in this book for Spanish (language).

spandite. A contraction of spessartite-andradite applied to garnets; intermediate in chemical composition between spessartite and andradite (English).

Spanish amethyst. A term formerly used for fine purple amethysts of unknown origin, marketed through Spain.

Spanish citrine. Citrine from Spain, especially that called **"Hinjosa topaz."**

Spanish emerald. In Europe, **Peruvian emerald** which came into Europe through Spain, was usually called Spanish emerald, and even today a particularly beautiful emerald is sometimes so called. The source of Spanish or **Mexican emerald** is today unknown but the only known source of fine emeralds was, and is, Colombia. See **Colombian emerald.** See page 260.

Spanish jet. Jet of good quality from Aragon and Oviedo, Spain.

"Spanish lazulite." Iolite.

"Spanish topaz." (1) A trade term broadly used for any orange to orange-red **citrine.** (2) More specificially, that citrine called **"Hinjosa topaz."** See also **"Madeira topaz."**

spar. In mineralogy, the equivalent of the German word "spath" meaning a crystalline mineral found in the fields, as feldspath (feldspar). Most of these spars are more or less vitreous, and easily cleavable as feldspar and fluorspar. (Kraus).

species. A mineralogical division. All the varieties in any one species have the same basic properties such as refractive index, specific gravity, and hardness; but they may vary widely in form, color, and transparency. See **variety.**

specific gravity (abbr. S.G.). The ratio of the density of any substance to that of water at 4°c. S.G. of gems is usually obtained by **hydrostatic weighing.** See also **Berman balance.**

specific gravity bottle or **pycnometer.** An especially made water bottle with a drilled glass stopper so marked that it can always contain a definite amount of water. Used for determining S.G. of liquid, powders and small fragments (and, rarely small loose stones) by **direct weighing method.**

specimen. (1) Term broadly used to refer to any single gem or piece of rough as distinguished from the entire variety or species. (2) More especially if it is representative of the class or exemplifies an unusual property.

Speckstein (German). **Steatite.**

spectacle stone (obsolete). Popular name for **selenite.**

Titles within quotation marks are misnomers. Every unusual word or term used is defined in this book and if printed in bold faced type its entry should be consulted. To fully understand the definitions, read the introductory pages.

spectra. Plural for spectrum.

spectral colors. Same as **spectrum colors** or **primary colors.**

spectrograph. An optical instrument similar to a **spectroscope** except that the results are recorded on photographic film rather than observed directly.

spectrometer. An optical instrument similar to, but more versatile than, the simple **spectroscope.** Scales are provided for reading angles. (Shipley, Jr.) A *wave-length spectrometer* is one designed or equipped in a manner to measure the wave-lengths at which **absorption bands** occur in an **absorption spectrum.**

spectrophotometer. An instrument combining the functions of the **spectroscope** and the **photometer.** Through its use, light intensity in any portion of the **spectrum** may be measured. (Shipley, Jr.)

spectroscope. An optical instrument for forming and examining spectra, by the dispersion of light into its component wave lengths: (1) by diffraction through a **grating** (the diffraction spectroscope); or (2) by refraction through a **prism** (the prismatic spectroscope). Used in determinative gemology for observing the comparative absorption of different hues in different stones.

spectroscopy. (spek-tros′ ko-py). The science pertaining to the use of the spectroscope and phenomena observed by it.

spectrum. A word which (1) as used generally and in fundamental gemology refers to the **visible spectrum.** (2) As used in physics or advanced gemology may refer to **electromagnetic spectrum,** or to that portion of it which includes the **infra-red** and **ultra-violet** as well as the invisible spectrum. See also **absorption spectrum; emission spectrum.**

spectrum, absorption. See **absorption.**

spectrum colors. The hues into which white light is separated upon passing through a prism. Six of these hues are easily distinguished by the eye: red, orange, yellow, green, blue and violet. See **visible spectrum.**

spectrum, emission. See **emission spectrum.**

specular hematite. The metallic dark grey to black variety of **hematite.**

specular iron. Same as **specular hematite.**

specular reflection. Reflection of light from the surface only, as distinguished from reflection of light from positions below the surface.

speculum. Medieval name for the crystal ball used in divination.

speed of light. In air, approximately 186,000 miles per sec-

ond. In any other substance, 186,000 divided by its R.I.

Spencer, Leonard James, Sc.D., C.B.E., F.R.S., F.G.S., F.C.S., F.R.G.S. (1870-). Member, Educational Advisory Board, Gemological Institute of America. Outstanding mineralogist. Keeper of Minerals, British Mus. Nat. Hist., 1927-35. Author of triannual *New Mineral Names; The World's Minerals* (1911); *Precious Stones* (1936); numerous articles, papers and reports. Translator of Brauns' *Mineral Kingdom*, and of Bauer's *Precious Stones* (1904). See **Bauer.** Editor, *Mineralogical Magazine* (1900-).

spessartine. The French word, sometimes used in England, for **spessartite.**

spessartite. A mineral of the garnet group, rarely of gem quality, which is orange-red to brownish-red, rarely yellow or orange - brown. Iso. $Mn_3Al_2(SiO_4)_3$; H. 7¼; S.G. 4.1-4.2; R.I. 1.79-1.81. Ceylon, Brazil, Germany, Sweden, Virginia, Nevada, and other sources.

sphaerite. (1) A term used by Schlossmacher for a pearl which is hollow or without a nucleus, but not used in American trade. (2) A mineral of no gemological interest.

sphaerolitic. Containing sphaerolites.

sphaerule, sphaerolite or **sphaerulite.** (1) Synonymous terms used in mineralogy to describe a radiating spherical group of minute acicular or prismatic crystals or **crystallites;** a spherical body having a radiated structure. Occur particularly in some vitreous volcanic rocks such as obsidian and/or perlite, also in agate (Wild), and in nephrite (Schlossmacher). (2) The word *sphaerulite* has also been suggested as a name for an **obsidian** containing sphaerules of crystallites.

sphalerite. (sfal′ or sfael′er-ite). A mineral closely approaching diamond in refractive index and atomic structure. When transparent and yellow to brownish yellow is sometimes cut as a gem and has higher dispersion than any other gem. Too soft and easily cleaved for practical use in jewelry. Iso. ZnS; H. 3.5-4; S.G. 4.0-4.1; R.I. 2.37; Disp. 0.157. From Spain, Mexico, and other sources.

sphene. A transparent-to-opaque rose red, yellow to green, brown, grey or black mineral of high refractive index. Gem varieties are transparent yellow to greenish and are in great demand by collectors for their brilliancy and exceptional fire. Mono. $CaTiSiO_5$; H. 5-5.5; S. G. 3.4-3.6; R.I. 1.88/1.99-1.91/2.05; Bi. 0.105-0.135. Disp. 0.52. Switzerland, Ceylon, Ontario, Quebec, New York, Pennsylvania and other sources. Its mineralogical name is *titanite.*

spherical aberration. See **aberration.**

spherule or **spherulite.** Same as **sphaerule** or **sphaerulite.**

spherulitic jasper. Jasper with inclusions of spherulites which are usually quartz. If they are of different color from the jasper it is usually an **orbicular jasper.**

Spiller amber. An obsolete name for **pressed amber.**

spinach jade. Dark green **nephrite.**

spinel. (spi-nell', rarely spin'-el). A transparent red, orange, yellow, blue, violet, or purple gem mineral. Transparent, especially red most desirable. Iso. $MgAl_2O_4$; H. 8; S.G. 3.5-3.8; R.I. 1.71-1.73. From Burma, Ceylon, New Jersey, and other sources. (Ceylonite variety 4.1). Dark-green to black, translucent to opaque, nongem varieties with higher properties. See **synthetic spinel.**

"spinel ruby." Red spinel.

"spinel sapphire." Blue spinel.

spinel twin. Variety of **contact twin** which is typical of twin crystals of spinel and which consists of two identical but reversed portions of **octahedrons** joined on a plane which is parallel to a face of the octahedron.

spinthere. Greenish **sphene.**

splendent. Very bright by reflected light.

splintery fracture. Breakage which produces elongated splinter-like fragments.

split facet. Break or cross facet. (Whitlock).

spodumene (spod'ue-meen). A mineral occurring in transparent rose, lilac, violet, green or yellow gem varieties of light tones. Also colorless. Difficult to cut as it cleaves easily. Should be oriented with table perpendicular to vertical axis. Mono. $LiAl(SiO_3)_2$. H. 6-7; S.G. 3.1-3.3; R.I. 1.66/1.68; Bi. 0.015; Disp. 0.017. Madagascar, Brazil, North Carolina, California, and many other sources. See **kunzite; hiddenite.**

spread. Width of a stone at the girdle, especially if that width is so great, in proportion to the depth of the stone, that it markedly affects the possible beauty of the stone.

square. Term used in pearl trade for method of reckoning the cost of any pearl of any size at a lot price, by the square of price given, with the grain as a unit. (Cattelle). See **base price.**

square cut. (1) Step cut with square outline and table. (2) A variation of this; a **fancy cut** with only four facets, or four facets and a culet, on the pavilion. (3) Any square stone.

square emerald cut. (1) Name often applied to any **emerald cut** in which the four longer sides of the table, of the culet and of

the outline of the girdle are respectively of equal length; i.e., an octagon of four long, and four very short equal sides. (2) More specifically, an equal-sided **sharp-cornered emerald cut.**

square hexagon cut. See **hexagon cut.**

square method. A method of computing the value of pearls. See **base.**

Stachelbeerstein (German). Grossularite.

stage. The portion of a **microscope** on which the specimen is placed for observation. In a polarizing microscope used in pearl or gem-testing it rotates and is called a rotating stage. An *immersion stage* is a microscope stage which permits immersing the specimen. A *universal stage* or *universal motion stage* is a microscope stage which permits placement of the specimen in any desired position. Most universal stages are calibrated to permit measurement of the angle between any two positions. See **microscope.** A *universal immersion stage* is a microscope stage which affords universal motion of an immersed specimen. The stage is of the greatest value in gemological microscopy. An *endoscopic stage* is a microscope stage equipped with an *endoscope.* A *pearl testing stage,* if complete, is a microscope stage equipped with both a pearl endoscope and a **pearl illuminator.**

stagmalite. A general term including both stalactite and stalagmite suggested by O. C. Farrington.

stained agate. See **stained stone.**

stained stone. A stone, the color of which has been altered (1) by dyeing with analine dyes, which fade or (2) by impregnation with a substance, like sugar, followed by either a chemical or heat treatment, which usually produce a permanent color. Cryptocrystalline quartz is especially adapted to staining, including agate, in which the bands become more pronounced.

stalactite. An inverted conical mineral formation, attached to the roof of a cave, formed by the percolation of mineral-bearing water.

stalagmite. A conical or cylindrical formation on the floor of a cave, produced by the dripping of mineral-bearing water from the roof.

stalky. Consisting of slender columns, or long stout fibers (crystals).

Standard. A word used in this book to refer to any of the Standard dictionaries of the Funk and Wagnalls Co.

standard brilliant. Term used to describe the usual 58 facet **brilliant cut** diamond with circular unpolished **girdle.** See **full cut brilliant.**

stantienite. A black fossil resin,

Titles within quotation marks are misnomers. Every unusual word or term used is defined in this book and if printed in **bold faced type** its entry should be consulted. To fully understand the definitions, read the introductory pages.

rarely occurring in amber mines in East Prussia; of little or no gemological importance. Called black amber. See **true amber.**

star. (1) A rayed figure, normally of four to twelve rays, consisting of two or more intersecting bands of light, seen in an **epiasteria;** an optical phenomenon caused by reflected light from inclusions (or channels). Stars are usually four- or six-rayed, but three, five, seven, or nine-rayed stars occur, or are possible, due to absence of inclusions in a portion of the stone. (2) The stone itself; an epiasteria which must be cut cabochon to exhibit the light phenomenon. See **asteria; star stone.**

star agate. Agate exhibiting star-shaped figures.

star almandine sapphire. A correct name for purplish star sapphire which is usually misnamed "star ruby."

star amethystine sapphire. A correct name for violet star sapphire which is usually misnamed "star ruby."

"star beryl." A term which has been applied to **asteriated beryl.**

star chrysoberyl. A term applied to chrysoberyl specimens which have shown an indistinct unsymmetrical six-rayed star with two of the three streaks which make up the star closer to one another than either is to the third streak. *(Gems & Gemology).*

star cut. (1) A form of standard **brilliant cut** with 56 facets, table and culet, but with the lower break facets elongated until their points almost reach the culet; thus the pavilion facets roughly form a 16-rayed star. (2) A complicated brilliant form used for colored stones in which every portion but the table is covered with star (i.e., triangular) facets. (Schlossmacher)

star doublet or **triplet.** Assembled stones which imitate star sapphire or ruby, consisting usually of (a) a cabochon top of some asteriated stone, usually decolorized rose quartz; (b) a thin mirror of sapphire or ruby color, sometimes indented with intersecting lines; and (usually) an unpolished domed back of some transparent-to-translucent substance which imitates the back of the genuine stone. Star sapphire has also been imitated by coating the back of decolorized rose quartz with a brilliant coloring substance. See **lacquer back;** also **starolite.**

"star emerald." Reported by **Halford Watkins** as having been seen in an Indian temple, but not tested gemologically. See **"asteriated emerald."**

star facets. The triangular facets which immediately adjoin the table in a brilliant-cut stone.

star garnet (rare). Garnet displaying normally four-rayed or six-

rayed, or both four-rayed and six-rayed epiasterism when cut cabochon. See **star.**

starlight. A distortion of the word **starlite.**

starlite. A name proposed by Kunz for blue zircon, but rarely used in U.S.A.

"star malachite." Chalcedony with inclusions of malachite arranged in the form of a star. A variety of **prase malachite.**

Star of Africa. See **Cullinan.**

Star of Artaban. A 316 c. blue star sapphire in Smithsonian (U. S. National Museum), Washington.

Star of Este. A famous small but flawless diamond of 26.16 m.c.

Star of India. A Ceylonese blue star sapphire of 563.35 c. Thought to be largest in world. Comparatively flawless, with well-defined star. In Am. Mus. of Nat. History, New York.

Star of South Africa. Famous diamond weighing in the rough 85.75 m.c., when cut 47.75 m.c. First large diamond found in Africa.

Star of the South. Famous Brazilian diamond discovered 1853. Cut stone weight 128.5 m.c. In Treasury of Gaekwar of Baroda, India.

Star of the West. A 105 grain Australian pearl once sold for 6,500 pounds sterling.

starolite or **star-o-lite.** A manufacturer's trade name for a **star doublet** backed with a blue mirror.

star quartz. Asteriated rose quartz which often shows a star by transmitted light and sometimes by reflected light if cut cabochon. See also **starolite.**

star quartz doublet. A **star doublet** of asteriated quartz.

star ruby. A ruby epiasteria with normally six rays. The trade illogically but usually uses the same name for pink, purple or violet star sapphires. See **star; star amethystine sapphire; star almandine sapphire.**

"star ruby sapphire." Pink, purple or violet star sapphires.

star sapphire. A sapphire **epiasteria** with normally six rays, rarely twelve. Bluish and gray are most frequent, although light purplish occurs often, and other colors rarely. See **star.**

star spinel (rare). Spinel displaying four-rayed or both four-rayed and six-rayed epiasterism on one stone. A seven-rayed epiasteria is in the collection of U. S. National Museum. See **star.**

star stone. (1) In general, any stone in which a rayed figure can be seen as in a **star sapphire, star agate, starolite,** or even in specimens of petrified wood in which (in its more transparent portions) numerous small star-like figures sometimes

occur. (2) More correctly, an **asteria** only.

"star topaz." Yellow **star sapphire.**

"star zircon." See **"asteriated zircon."**

staurolite (sto′ roe-lite). An opaque, rarely translucent brownish to black mineral, frequently occurring in interpenetrated twins in the form of a cross. A curio stone used without fashioning, although often artificially improved by cutting. Sometimes imitated in softer tones. Ortho. H. 7-7½; S.G. 3.4-3.8; R. I. 1.74/1.75-1.75/1.76. From Switzerland, South America, Georgia and other sources. See **stilbite.**

staurotypous. In mineralogy, having cross-like markings. (Standard).

stealite. Chiastolite.

steatite (stee-a-tite). A very soft and easily carved ornamental mineral (massive talc) sometimes used as an inferior substitute for jade. Brownish, greyish green, grey or almost white. Sometimes tinged with red. Ortho. or mono. (Dana) H. 1-2.5; S.G. 2.6-2.8; R.I. 1.54/1.59.

steinheilite. Cordierite.

stellate. Radiating so as to produce star-like forms.

step cut. A basic style of cutting in which all facets are four-sided and in steps or rows, both above, below and usually on the girdle; all parallel to girdle and therefore, except those on the corners, long and usually narrow. Two or three rows above and usually more below. Among many modifications are the **emerald cut, square cut, scissors cut.**

Stephen's stone. Same as **Saint Stephen's stone.**

Stewart Diamond. Famous South African alluvial diamond; rough 296 m.c.; cut 123 m.c.

stilbite. A mineral which often forms cross-shaped twin crystals usable as ornaments. A substitute for **staurolite.** H. 3.5-4; S.G. 2.1-2.2.

Stolberg or **Stollberger diamond.** Rock crystal.

stone. (1) Any small piece of rock or mineral. (2) In the gem trade the term usually implies a cut and polished mineral (or occasionally a rock, such as lapis lazuli or obsidian) or any artificial reproduction of, or substitute for it. See **gemstone.**

stone cameo. See **cameo.**

stone gauge. Any measuring desions or angles of gemstones. See **Leveridge gauge; Moe gauge; millimeter screw micrometer.**

strahlite. A name for **actinolite.**

Strahlstein. A German word for chlorastrolite meaning ray-stone. See page 260.

strain. An irregularity in the usual

orderly pattern of atoms in the crystal structure of a mineral, frequently caused in diamond by an inclusion of a tiny crystal or crystals of diamond or another mineral. Strain produces **anomalous double refraction** in diamond, garnet, spinel and other isometric (singly refractive) minerals.

strass. (1) **Flint glass** with high content of lead which results in relatively great S.G., R.I. and dispersion. It is the most common glass imitation of diamond. Also used to imitate other colored gemstones. See **paste.** (2) A term widely, but incorrectly used as a synonym of paste to mean any glass imitations of gems.

strata. Layers or beds of some ancient sea, lake or stream.

strawberry pearls. Large, pink, iridescent and lustrous baroques, fairly regular in shape, with the appearance of being thickly sanded under the nacre.

streak. The color of the powder of a mineral, which can be observed by drawing the mineral across a **streak plate,** a test of only occasional value in determinative gemology. See **hematite.**

streak plate. A piece of unglazed porcelain. See **streak.**

stria (stry'a). A line, especially one of a series of parallel lines as in groups of demarcation lines between differently colored layers seen in some genuine sapphires in which they are parallel and straight, and in synthetic sapphire in which they are parallel and curved. See **striations.**

striae (stry'ee). Plural of stria. See **cooling striae.**

striated crystal. One with striae on the surface of a face or faces.

striations (strye-a'shuns). Striae, usually parallel, on the faces of crystals.

striped jasper. Same as **banded jasper.**

strong dichroism, trichroism or **pleochroism.** See **pleochroism.**

structure. Term loosely used in gemology to mean crystal structure.

Stuart Sapphire. A blue sapphire set in back of British Imperial State crown, 1½ in. by 1 in.

"Styrian jade." Same as pseudophite.

styrine. A transparent plastic with comparatively high R. I. and dispersion. R.I. 1.59.

subadamantine. Luster not as highly reflective as **adamantine,** but more so than **vitreous.**

submetallic luster. Like **metallic,** but somewhat dulled.

substitute. In gemology, any substance represented to be, or used to imitate, a more valuable or better known substance such as a genuine gemstone.

subtranslucent. Same as **semitranslucent.**

subtransparent. Same as **semitransparent.**

subvitreous. Having an imperfect vitreous luster.

"succinite." Incorrect term for **succinite garnet.** See **succinite.**

succinite. (suk'sin-ite). The mineralogical term for an amber mined in East Prussia or recovered from the Baltic Sea. Yields succinic acid when heated. See **amber; Baltic amber.**

succinite garnet. Light yellow amber-colored andradite (Schlossmacher).

succinum. Ancient name for amber.

Sudaifee pearl. Pearl from the **Sudaifee** variety of *Meleagrina vulgaris* of the Persian Gulf. Often yellowish in color and generally inferior in quality and number to the **Lingah pearl.**

"sulphur diamond." Pyrite.

sulphur stone. Pyrite.

Sulu pearl. Fine quality **Philippine pearl** from the Sulu Archipelago, the portion of the Philippine Islands between Mindanao and Borneo. Usually reaches the trade as Manila pearl.

Sun God Opal. Same as **El Aguila Azteca Opal.**

sun opal. A fire opal.

sunstone. Translucent grey-to-white feldspar, usually oligoclase, containing tiny inclusions of hematite or goethite which, if in flakelike form, produce a yellowish or reddish **aventurescence,** and sometimes a reddish cast, to the entire stone. Also known as aventurine feldspar.

Suriam garnet. Same as **Syriam garnet.**

Sverdlovsk. A large city (formerly Ekaterinburg) in Ural Mts., Siberia. A mining, cutting and trade center of gemstones from the Urals. See **Takavaya; Russian emerald.**

Swedish amber. See **Baltic amber.**

sweet-water pearl. Pearl from fresh water.

swirl (marks). Same as **whorl.**

"Swiss jade." Stained jasper (R. Webster). See **stained stones.**

"Swiss lapis." Chalcedony or jasper artificially dyed blue.

syenite. A rock composed principally of feldspar and resembling granite in composition except that it contains little or no quartz.

"synthetic alexandrite." Usually synthetic spinel; sometimes synthetic sapphire. See **synthetic stone.**

"synthetic aquamarine." Pale blue synthetic sapphire or synthetic spinel. Synthetic aquamarine is not yet made commercially.

synthetic beryl. (1) Made commercially in all tones of green. See **synthetic emerald.** (2) Mis-

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nomer for light-green synthetic spinel.

synthetic corundum. Made by melting alumina in an oxyhydrogen flame. So far has been crystallized only in long slender rods or in **boules** which differ greatly from shape of natural crystals. Rarely the correct color of the genuine natural stone. Detected most effectively by nature of its inclusions which differ from those of genuine **corundum.** See **synthetic stone.**

synthetic emerald. (1) A synthetic beryl crystallizing in same form as the genuine and sold commercially. Often of sufficiently dark green color to be accurately classed as emerald. Made in Germany and California, but so far in small quantities and only in sizes that will yield gemstones of not more than a few carats. (2) Term widely used for so-called **emerald triplets** and for glass imitations, especially of **beryl glass.**

"synthetic hematite." Manufacturers' misnomer for various metallic imitations of **hematite.**

synthetic ruby. See **synthetic corundum.**

synthetic sapphire. See **synthetic corundum.**

synthetic spinel. Made in many colors by same method as is synthetic corundum and in similar forms except that boules usually exhibit four lateral faces at right angles to each other. Detected in somewhat the same manner.

synthetic stone. A **reproduction** of a stone which has the same chemical composition, hardness, specific gravity, refractive power, dichroism, etc., as has the genuine stone it reproduces. Many gem minerals have been made synthetically as a scientific experiment, but only corundum, spinel and emerald have been commercially made and cut as stones for the trade.

"synthetic turquoise." A misnomer for various amorphous imitations of turquoise, including **Vienna turquoise.**

syntholite. Trade-mark name for a synthetic alexandrite-like sapphire, green changing to violetish.

Syriam garnet. An old name for almandine garnet.

"Syrian garnet." Incorrect name for **Syriam garnet.**

szaskaite. Same as smithsonite. (English).

T

tabasheer or "**tabasheer opal.**" Translucent to opaque, white to bluish-white amorphous silica; found in certain species of bamboo in India, Burma, and South America. Resembles **hydrophane.**

table. (1) *Gemological:* The horizontal flat surface (facet) on the crown of a faceted gemstone. (2) *Mining:* A concentrating machine which separates smaller crystals or portions of rock or crystals from larger portions.

table cut. (1) A variation of the step cut, with very large table joined to girdle by beveled edges. (Kraus and Slawson). (2) A classification under which Schlossmacher includes the latter and other miscellaneous variations of step or brilliant cut which have an unusually small number of facets. (3) Term sometimes loosely used to describe any one of the variations of the **bevel cut,** provided it has the usual large table of that cut. (4) (Obsolete). Probably the earliest symmetrical style of fashioning diamonds in which opposite points of an **octahedron** were removed to form a very large culet and larger table; the remaining portions of the eight octahedral faces were then polished.

table cutter. A lapidary who cuts tables or plane faces on diamonds or other precious stones (Standard). See page 260.

table stone. A term which has been applied to any stone cut in any of the styles described under **table cut.**

tablet. *In mineralogy,* a **tabular crystal.**

tabular. In mineralogy, formed in broad flat crystals or masses, tablet-like.

tabular crystal. A broad flat crystal; a tablet-like crystal.

Tahiti pearl. (1) Specifically, any pearl from Tahiti. Like pearls from other islands in the South Seas, may be white, yellowish, greyish or blackish. See also **Tuamotu pearl.** (2) A trade term for any white pearl with only a tinge of orient, often with a slightly greyish metallic cast. Found in *Meleagrina margarītifera.*

tailings. The part of washed gem ground or of an ore concentrate

which is thrown behind the tail of the washing apparatus to be washed again or to be thrown out.

taille en seize (Fr.). Faceting in sixteen facets, plus table and culet. Same as **single cut.**

takhtis. "Word used to designate emeralds that were carved in Delhi, India, as early as the sixteenth century and I believe are still carved by the Indian craftsmen." (Whitlock).

takin. Same as **takhtis.**

Takovaya or **Takawaya.** A river in Ural Mts. near which emeralds were discovered about 50 miles northeast of **Sverdlovsk,** in the most important emerald-bearing district on the Eurasian continent. Beryl, alexandrite and phenacite are also found there. Also spelled *Takovaja.*

Takovaya alexandrite. Fine alexandrite found in association with Takovaya emerald.

talc. A very soft mineral. $H_2Mg_2(SiO_3)_4$. Its only variety of gemological interest is **steatite.**

Talifu jadeite. A term referring to Talifu or Tay-hy-fu, Yunnam Province, China, a jadeite market, but not a source. (Schlossmacher).

talisman. A charm, often a gemstone, which is supposed to produce unusual effects, such as protecting the wearer, or bringing him good luck, good fortune, etc.

Talisman of Charlemagne. A jewel composed of two large sapphires, cut en cabochon, and joined and surrounded by precious stones. These form a small box containing a cross. Was in cathedral at Aachen before World War II.

talladura (Span.). Cut (of a stone).

tallar (Span.). To cut gems.

tallow drop. A style of cutting precious stones in which the stone is domed on one or both sides. (Century dictionary). Same as **cabochon.**

tallow top. A cabochon stone with a low, convex surface.

taltalite. Green Brazilian tourmaline.

tama (Japanese). Jade. Same as **gigaku.**

Tammaw jade. Same as **Tawmaw jade.**

tangawaite or **tangiwaite.** Name for bowenite from New Zealand. Resembles **nephrite** in appearance.

tangiwai (Maori). Same as **tangawaite.**

tank. A Hindu unit of weight for pearls; 24 ratis or about 0.145 oz.

Tarshish. The tenth stone in the **Breastplate of the High Priest.** The Hebrew word *tarshish* means *a stone of Tarsus* from Tartessus, (a maritime country mentioned in the Old Testament,

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probably in Spain). Tartessus means "golden stone" sometimes translated as "chrysolite" which was probably the topaz of today. May have been citrine quartz or topaz quartz. Dr. Kunz suggests yellow jasper. Engraved with the name Naphtali.

Tasmanian alexandrite. Alexandrite of good quality from Tasmania.

"Tasmanian diamond." White topaz.

Tasmanian topaz. Colorless to light blue topaz from Tasmania.

Tasmanian zircon. Yellow brown to dark red zircon from Tasmania, the former becoming colorless by heating.

Tassie paste. Glass which is lower in lead content than strass, used by James Tassie (1735-1799), a Scottish chemist who studied art and later produced impressions in his paste of most of the then-known famous antique intaglios and cameos, remarkable reproductions representing almost all colored stones. Complete sets were made for collections. The paste was inferior for imitating diamonds. It contained about 49% silica, 34% lead monoxide, 10% potassium oxide, etc.

tataya. Burmese name for topaz.

Tauridan. Very light blue, almost colorless, topaz. Same as **Siberian topaz** (Bauer-Spencer).

Tavernier, Jean Baptiste, Baron d' Aubonne (1605-1689). French traveller and gem dealer who reported many details of gem mines, mining and markets and described many important gems in his *Les Six Voyages de Jean Baptiste Tavernier*. Translated into English by V. Ball as *Travels in India*. (1st ed., 2 vols. 1889; 2nd ed., 2 vols. 1925).

Tavernier rule. A method of gem value calculation. Price increases by the square of weight of stones. Now obsolete.

Tawmaw (Tawma, Tammaw) **jade.** Jadeite from Tawmaw, in upper Burma, probably the most important jadeite source.

tawmawite. A chrome-rich variety of **epidote.** Yellow, dark-green to green, approaching emerald color. From Tawmaw, Upper Burma.

tecalco. See **tecali.**

tecali. A name for **onyx marble.** From Tecali, Mexico, also spelled Tecati and Tecalco. See **"Mexican onyx;" "Mexican jade."**

tecati. See **tecali.**

"Tecla emerald." A false **triplet.**

"Tecla pearls." Trade-marked name for both solid and wax-filled **imitation pearl** beads.

tektite. A natural siliceous glass, found as loose, rounded, pitted fragments in various parts of the world. Now thought to be

of meteoric origin. (Spencer). Its only gem variety is **moldavite.** (Smith).

templet. Same as **bezel facet.**

tenacity. Same as **toughness.**

termination. In mineralogy, the end of a crystal and especially the natural crystal faces on that end as distinguished from a broken or polished end. A crystal is said to be *singly terminated* if natural faces occur on only one end as in **attached crystal;** *doubly terminated* if they occur on both ends as in **disseminated crystals.**

terminology. The technical or special words or terms used in any science, art, industry, trade, etc. See **nomenclature.**

test stone. Basanite. Used for testing streak of precious metals.

tetr. Abbr. used in this book for **tetragonal system.**

tetrabromoethane. Same as **acetylene tetrabromide.**

tetragonal mineral or **stone.** Mineral or stone of the **tetragonal system.**

tetragonal system. In crystallography, a system which has three axes, two of equal length perpendicular to one another, the third of a different length, perpendicular to the plane of the other two. Same as isometric system except crystals are longer or shorter than their width. Zircon and rutile are the only important gem minerals of this system. See also **crystal systems.**

tetrahedral. Pertaining to the tetrahedron, a four-sided form of of the cubic system.

Thailand. Same as Siam.

Texas agate. Jasp-agate from gem gravels of Pecos River, Texas.

thallite. Same as **delphinite.**

thallium. A rare metallic element of the aluminum group, resembling lead in physical properties. Symbol, Tl. A constituent of some glass imitations of gems.

thallium glass. A flint glass which contains thallium. S.G. up to 5.4. Highly refractive and dispersive; occasionally used especially to imitate gems of high dispersion.

thermo-luminescence. A variety of **luminescence** produced, as in chlorophane, by heat (infra-red) rays.

Thetis hair stone. Crystalline quartz containing inclusions of green fibrous crystals which may be tangled or wound into a ball and are hornblende (Schlossmacher), or actinolite or asbestos (Bauer). See **moss stone, Venus hair stone, sagenitic quartz.**

thin section. In mineralogy, a thin slice of a mineral, usually prepared for examination under a microscope of high magnification by cementing to a thin transparent glass plate or slide.

thiruvana. Singhalese word for a

rocky gravel of whitish color finding of which indicates the presence of gem-bearing ground.

thomsonite. A translucent to opaque **curio stone,** popular in Lake Superior district where it occurs as water-worn pebbles, or more rarely in amygdules. Mottled or banded; sometimes **orbicular.** White, gray, brownish, reddish, yellowish, greenish. Cut cabochon. Ortho. $2(Ca,Na_2)Al_2(SiO_4)_2.5H_2O$. H. 5-5.5; S.G. 2.3-2.4 (Kraus); R.I. varies from 1.51 to 1.54. See **comptonite, lintonite, ozarkite.**

thool. Ceylonese pearl trade term for seed pearl. Same as **tul.**

Thoulet solution. (thue-lae) Same as **Sonstadt's solution.**

three-phase inclusion. An inclusion in a gemstone consisting of a liquid or negative inclusion which in turn encloses (a) a gas or air bubble or bubbles, and (b) a small mineral crystal or crystals. Distinguishable under gemological microscope in some stones, especially some emeralds.

thulite (thue'lite). (1) An ornamental and decorative stone. The light red to light purplish red (rose) variety of **zoisite.** (2) Also the name for a variety of saponite of no gemological interest.

thumb marks. In gemology, the rhythmic or rippled markings or fractured surfaces of crystalline quartz which contains **twinning laminae.**

Thursday Island pearl. Australian pearl fished in neighborhood of Thursday Island in the Torres Strait, between Australia and New Guinea.

Ti. Abbr. for the element titanium.

Tibet stone. Mixture of aventurine quartz and quartz porphyry which may be of various colors. Has been cut as **ornamental** or **curio stones.** From Russia.

Tibetan turquoise. Genuine **turquoise** which in Tibet is more highly regarded than any other gem. However, the efforts of **Laufer,** in 1913, and **Pogue** in 1919, failed to authenticate the presence of any turquoise mine in Tibet. On the other hand **Schlossmacher,** in 1932, and **Eppler,** in 1934, mentioned turquoise sources in western Tibet near Ngari-Klorshum, and in the neighborhood of Lhasa in the Batang and Chando districts of eastern Tibet.

Tiffany Diamond. A yellow brilliant South African diamond, belonging to Tiffany & Co., N. Y. Weight 128.5 m.c.

Tiffany mine. A turquoise mine, seven miles from Los Cerillos, N. M., reputed to have produced large quantities of fine-quality gems previous to 1915.

Tiffany Queen Pearl. Same as the **Queen Pearl.**

tiger-eye. A yellow and yellowish-brown ornamental and gem variety of quartz. Pseudomorphous after **crocidolite.** Colored by limonite which by heating probably turns to hematite and produces a red and brownish-red tiger eye. Grey tiger eye is produced by an acid treatment. When cut with flat surface parallel to the fibers, the slightly differing colors produce a changeable silky **sheen** as the stone is moved. A popular stone for cameos and intaglios. When cut **cabochon** with base parallel to the fibers, produces a cat's-eye effect. Principal source Asbestos Mountains west of Griquatown, South Africa, Sometimes called tiger's-eye.

tigerite. Same as **tiger-eye.**

tiki (Maori). A figure carved from nephrite, worn as a neck ornament by Maori women; a symbol of fecundity.

"Timur Ruby". The largest known (361 m.c.) red **spinel,** famous for six centuries and thought to be a ruby for most of that time. Known as Khiraj-i-Alman (The Tribute of the World) it was seized by Timur in Delhi in 1398 (Smith). It continued to change hands usually in the same manner until it was presented to Queen Victoria by the East India Company in 1851. Now among British crown jewels, it is still uncut and bears inscriptions in Persian indicating six of its royal owners.

"tin cut." A misleading trade term sometimes applied to glass imitations of rock crystal beads which have been cut, as distinguished from moulded or cast beads. See **tin polished.**

tincture. Literally, a tint, but sometimes used to mean **foiling** or **foil back** or **lacquer back.**

tinge. A color designation. A faint trace of a hue which modifies another **hue** as, a blue with a tinge of green, i.e., blue tinged with green, or, stated differently, very slightly greenish-blue.

tin-lap. In gemology, a tin or tin-covered **lap.**

tin oxide. An abrasive usually used in the fashioning of all facetted **colored stones,** except possibly corundum or peridot to produce a high polish; not used on diamonds.

tin polished. A term correctly applied to gems which have been polished on tin laps. Also incorrectly used synonymously with the term **"tin cut."**

tin spar. Cassiterite. (A. H. Chester).

tinstone. Cassiterite.

tint. An attribute of **color.** (1) Correctly, any light **tone** of hue. (2) Often loosely used to mean **tinge.** (3) In popular usage, *tint* is often used in error to mean **tone.**

Tintenbar opal. Opal from Tin-

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tenbar district in NE New South Wales which develops cracks on exposure and loses color.

titanic schorl. Rutile.

titanite. (tye′ tan-ite). Same as **sphene.**

toad's-eye tin. Reddish cassiterite with concentric structure. Sometimes cut cabochon for collectors.

todai. Singhalese name for the water bailer or pearl fishing boat.

todo mundo stone. Brazilian term for dark-green tourmaline inclined to yellowish or brownish hue (Schlossmacher.)

"tokay lux sapphire." (1) Name for a brownish-black obsidian from Hungary (Schlossmacher). Eppler spells it *luchssaphir* meaning "lynx sapphire" which is an incorrect name for iolite.

"tokay lynx sapphire." Same as **"tokay lux sapphire."**

tola. An Indian measure of weight for pearls, 62 ratis or about ⅜ ounce. *(Gems & Gemology)*.

toluene or **toluol.** A light hydrocarbon, related to benzine, with low surface tension. Used in place of water in accurate specific gravity determinations. Also used as a solvent to lower the S.G. or R.I. of methylene iodide. (Shipley Jr.)

tomb jade. Jade which has been buried, usually with the dead, conforming with a Chinese custom. Usually reddish or brownish. The Occident customarily confines the term tomb jade to such colors, although many other colors, all of which are due to oxidation, are recognized in China. Coloration may be reproduced artificially. See **Han Yü, mouth jade.**

tone. That attribute of a **color** which determines its position in a scale from light to dark. Thus white, and also light gray, are light tones, and dark gray the dark tone of the same color sensation; pink is a light tone of red, and maroon a dark tone. A light tone is usually known as a tint, a dark tone as a shade.

tongs. In gem cutting, a stand having at its upper end a vise-like arrangement by which to hold the cup in which a gem is cemented, so as to press the latter against the polishing wheel (Standard). See also **corn tongs; pearl tongs.**

tongue test. A test by which crystals or crystalline gemstones, all of which are genuine or synthetic, can be distinguished from glass which feels warmer in comparison, when held to the tongue.

"tooth turquoise." Odontolite.

top (of a stone). That portion above the girdle. See **crown.**

topacio (Span.). Topaz.

topaz. (1) A transparent-to-translucent gem mineral; usually white or pale blue, also yellow,

orangy yellow, brown, light red (pink); rarely violet or greenish. Sometimes called precious topaz to distinguish it from citrine or topaz quartz with which it has long been confused by less well-informed jewelers. Ortho. $Al_2(OH,F)_2SiO_4$; H. 8; S.G. 3.5-3.6; R.I. 1.61/1.62-1.63 1.64; Bi. 0.008. Disp. 0.014. From Brazil, also Ceylon, Urals, California, Colorado, Maine and other sources. See also **topaz quartz.** (2) As an adjective, a color designation meaning greenish-yellow to orange-yellow as used in **topaz glass, topaz quartz.**

"topaz cat's-eye." Yellow girasol sapphire which theoretically can exhibit a more or less well-defined light line, or chatoyancy.

topaz glass. Topaz colored glass. One variety used in imitation gems has S.G. 4.98; R.I. 1.77 (Anderson).

topazolite. A little-known greenish-yellow to yellow-brown variety of **andradite** garnet. Rarely transparent. (Schlossmacher). Beautiful, transparent but rarely cut. (Eppler).

topaz quartz. (1) The term recommended by B.I.B.O.A. and American Gem Society to supersede the use of topaz, quartz topaz, occidental topaz, and similar terms formerly used by all jewelers to describe **citrine, burnt amethyst** or **burnt cairngorm.** The term means *topaz-colored quartz*, and does not imply a mixture of topaz and quartz as the term might imply if it were hyphenated (i.e., topaz-quartz). Rules of the F.T.C. specify that it shall not be represented as **topaz.** (2) The term topaz quartz is also used for **burnt amethyst** or **burnt cairngorm** as distinguished from **citrine.** Their properties are approximately the same as those of citrine, except that the dichroism of citrine is much stronger. Both topaz and citrine (topaz quartz) are listed by the American Gem Society as the November **birthstone.** See page 260.

topaz saffronite. A coined word for topaz quartz (citrine). Recommended by B.I.B.O.A. for transitional use until the permanent establishment of **saffronite.**

topographic agate. Agate with fine markings like lines on a topographic map. See **fortification agate.**

torsion balance. A sensitive weighing device which operates on the principal of the twisting (torsion) of a rod or bar of metal. A specially-designed balance of this type, known as the **Berman balance** is used for accurate specific gravity determination on small mineral fragments or gems.

tortoise shell. Mottled dark brown, light brown and yellow mottled shell of the hawk's-bill sea tur-

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tle *(Chelone imbricata)* Easily molded when hot; used for boxes, cigarette cases and fine toilet ware. Freely imitated in plastics in which the dark portions lack the swarms of spherical reddish particles seen under the microscope in the genuine (Anderson). S.G. 1.26-1.35; R.I. 1.55-1.56. From Celebes, New Guinea, China, India, Africa, and Australia. (R. Webster) See **ecaille.**

tosa coral. Medium quality of Japanese coral.

total reflection. In gemology, total reflection occurs when a ray of light, after entering a gemstone, strikes any boundary of that gemstone at an angle *greater* than its **critical angle.** Total reflection may continue indefinitely within a stone, as the light striking any boundary is totally reflected until it strikes a boundary at an angle less than the critical angle, in which event it passes out of the stone.

total reflection, angle of. Same as **critical angle.**

total reflectometer. An instrument for measuring the **critical angle** (of total reflection)

touchstone. Same as **basanite.**

toughness. The resistance which a gemstone or similar substance offers to breakage or other change of form. The tenacity of a substance. Briggs' "*Encyclopedia of Gems*" contains the only extant table of the comparative toughness of gemstones, and of important ornamental stones. See **tenacity; cohesion.**

tourmaline. An important transparent gem mineral occurring in almost all the principal hues of the spectrum, but not in emerald green; also opaque black and colorless. Green and light red are the most frequent gem colors and prismatic crystals are often of one of these hues banded near the surface with the other hue either concentrically or at the ends. A complex borosilicate. Hex. H. 7-7.5; S.G. 3.0-3.2; R.I. 1.61/1.64-1.64/1.67, (1.61/1.63-1.63/1.65 for paler stones). Bi. 0.018-0.030. Disp. 0.017. From Ceylon, Madagascar, Brazil, Urals, Burma, California, Maine.

tournamel. A Ceylonese term which has been used for both tourmaline and zircon. (S. H. Ball).

trainite. Local trade name for a green stone, somewhat like variscite or turquoise, which was originally thought to be banded variscite and later listed by English as a mixture of **vashegyite** with a colloidal **zeolite.**

translucency. State of being **translucent.**

translucent. Passing light imperfectly. A translucent material transmits light, but objects cannot be resolved through it. Translucent gem material is not suitable for brilliant cutting, but only for cabochon, beads, etc.

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transmitted light. Light which has passed through an object as distinguished from **reflected light.** Gems are usually examined for **imperfections** by transmitted light.

transparency. State of being **transparent.**

transparent. Passing light perfectly. A transparent material transmits light, and objects can be seen clearly even through a considerable thickness.

"Transvaal emerald." Same as **"African emerald."**

Transvaal garnet. A green garnet, said by most authorities to be **grossularite.** S.G. 3.45-3.50; R.I. 1.72-1.73 (Smith). Others class it as **demantoid** or other variety of **andradite.** See **"Transvaal jade."**

"Transvaal jade." (1) A compact, fine-grained **grossularite** garnet. Light green in color. S.G. 3.45-3.50; R.I. 1.72-1.73. From 40 miles west of Pretoria (Smith). Often contains black bands of chromite and is used for ornamental objects (Pough). (2) Dark green andradite from SW Africa, also called Transvaal nephrite (Schlossmacher). (3) Dark green, nephrite-colored garnet-hornstone from Buffelsfontein and Turffontein. H. 7; S.G. 3.49 (Eppler after Brauns). See **"garnet jade."**

"Transvaal nephrite." See **"Transvaal jade."**

Transvaal tourmaline. A term applied to fine green tourmaline. Marketed through the Transvaal but probably from Southwest Africa.

trap brilliant. A trap or step cut stone, the girdle of which is approximately circular.

trap cut. Same as **step cut.**

trap rock. A dark, basic, heavy, igneous rock, fine-grained or dense in texture.

trapeze cut. A fancy-shaped or **modern cut,** the girdle outline of which consists of four straight lines, the two larger ones being parallel but of unequal length; the shape of the trapezoid or truncated triangle.

travertine. (trav'er-tin). A decorative and architectural stone, easily dyed. A water-deposited variety of calcite. As a dyed substitute, has found its way into jewelry.

treated stone. A **heated stone, stained stone, coated stone** or a stone which has been treated with X rays or radium, to improve or otherwise change its color. Also a stone which may have been treated to disguise flaws as are **doctored pearls,** opals the cracks of which have been filled with oil, etc.

tree agate. See **mochastone.**

tree stone. Same as **tree agate.**

"Trenton diamond." Quartz crystal from Herkimer County, New York.

Tri. Abbr. used in this book for **triclinic system.**

triangle cut. A fancy shaped or **modern cut** of which the outline

of girdle and table is a triangle.

triboluminescence. (trib″oe-lue-mi-nes′-ens) Luminescence produced by rubbing.

trichroic colors. (trye′-kroe-ik). The colors observable in a **trichroic stone.**

trichroic gem or **stone.** One possessing **trichroism.**

trichroism. The property of most doubly refractive, colored minerals of the orthorhombic, monoclinic, and triclinic systems, of transmitting three different colors in the three different directions which correspond with the three crystallographic axes. See **pleochroism, dichroism, dichroscope.**

triclinic mineral or **stone.** Mineral or stone of the **triclinic system.**

triclinic system. A system in crystallography based on three axes, no two of which are of equal length and no two of which are perpendicular to one another. The least symmetrical **crystal system.**

trigonal system. A subdivision of the **rhombohedral system.** See also **crystal systems.**

trilling. A symmetrical intergrowth of three crystals. The type of **twinning** such as the six-rayed twinned crystals, consisting of three individuals, which occur in chrysoberyl.

trimetric system. Same as **orthorhombic system.**

trimorphism (trye-mor′ fism). The property of being **trimorphous.**

trimorphous. See **polymorphism.**

triphane. Same as **spodumene.**

triple pearl. A pearl formed of three distinct pearls united under a nacreous coating.

triplet. An **assembled stone** of two main portions bound together by a layer of cement or other thin substance which can be colored to reproduce the color of the stone which the triplet imitates. If it is of two portions of the species being imitated, plus a binding layer, it is a *genuine triplet;* if of one portion only, it is a *semigenuine triplet;* if it contains no portion of the species being imitated it is a *false triplet;* if no portion is a genuine mineral, it is an *imitation triplet.*

tripletine. A name for emerald-colored beryl triplet. See also **"emerald triplet."**

tripoli. A porous decomposed chert (quartz) and siliceous limestone rock which, when powdered, is used as an abrasive in fashioning gemstones. **Rottenstone** is similar and in popular usage the two words are synonymous.

tripolite. A form of silica made up of the siliceous shells of diatoms. A variety of common opal. (Dana). A term also sometimes applied to the decomposition product of siliceous limestone. (Kraus

and Hunt). A term often used almost synonymously with **tripoli.** Also called diatomaceous earth.

true amber. A term used by a few authorities for **succinite** only, especially those influenced by propaganda of the German government which has controlled the mining and manufacture of succinite. Most authorities include any fossil resin which contains succinic acid, among which are rumanite, simetite and burmite, although the presence of the acid in burmite is questioned. Still other authorities include other fossil resin such as **gedanite.**

true doublet. A genuine doublet. See **doublet.**

true pearl. Pearl unattached to the shell whose surface is formed from nacre, as distinguished from similar formations which are not nacreous or attached to shell. While a **cultured pearl** is scientifically classed as a true pearl, the popular description of it as such might be misinterpreted as meaning a genuine natural pearl and such description is considered by the F.T.C. as an unfair trade practice.

true star. Proprietary name for a patented star **triplet** made to imitate star sapphire. Composed of synthetic stones with polished top, cabochon cut, with a backing of unpolished plastic or stone, the two parts separated by foil upon which one or more systems of parallel lines have been inscribed. These lines produce a **star** in a somewhat similar manner as do inclusions in a natural **asteria.** See **star quartz.**

true topaz. Genuine topaz as distinguished especially from **citrine** or **topaz quartz.**

Tsao P'i Heng. Chinese name for date skin red jade.

Tschantabun ruby. Same as **Chantabun ruby.**

Tuamotu pearl. Pearl from the Tuamotu archipelago or Paomotu Islands, a French possession in the South Pacific, east of The Society Islands (also French), among which is Tahiti. Similar to **Tahiti pearl.**

tul. Ceylonese pearl trade term for seed pearls. The word means powder. Same as thool. See **chunam.**

tulip. A fancy-shaped or modern cut. The outline resembles the outline of a tulip, as seen from the side.

Tully refractometer. A large **gemological refractometer** designed for the laboratory. Employs a segment of a hemisphere of glass of high R.I. in a rotating hemisphere which expedites the rotation of a specimen for the purpose of obtaining **birefringence.** See **Rayner refractometer, Smith refractometer, Erb & Gray refractometer.**

Tunisian coral. Coral from the coast of Tunis from around Sfax and around Tabarca. An Algerian coral.

turchese or **turchina** (Italian). Turquoise.

turcos (obsolete). Turquoise.

Turkestan jade. Nephrite from Chinese Turkestan.

Turkestan turquoise. Turquoise from several mines near Samarkand and Kuraminsk in Turkestan district of U.S.S.R.

turkey fat. Popular name for yellow **smithsonite** from Arkansas.

turkey stone. A misnomer for **turquoise.**

turkis (obsolete). Turquoise.

turkois. A rarely used spelling of **turquoise.**

turk's head. A name for Brazilian **tourmaline** crystal with a red termination or end.

turquesa (Span.); **turqueza** (Port.) Turquoise.

turquois or **turquoise** (tur-koiz' or tur'kwoiz; French, toor-kwawz'). The most important opaque gemstone. Treasured by early inhabitants of both the Old and New World. Light blue to light blue-green, of which the greenish hues are least desirable. Sometimes yellowish green. Usually apparently amorphous (Kraus and Hunt), or cryptocrystalline (Dana). Found in minute crystals only in Virginia, in non-gem sizes. A basic phosphate of aluminum and copper, in which iron may replace part of aluminum, causing greenish hues. Tri. H. 6; S.G. 2.6-2.9; R.I. 1.61/1.65. From Persia, Turkestan, Egypt, Australia, New Mexico, Arizona, Nevada, California.

turquoise matrix. Name for cabochon-cut mixtures of turquoise and its mother rock, which is usually brown, sometimes grey or almost black.

turtle back. (1) A name for **chlorastrolite,** especially the green variety with patches of color. (2) Turquoise matrix or (3) variscite matrix. (4) A North American pearl fisher's term for an oblong domed-topped pearl. See **turtle-back pearl.**

turtle-back pearl. (1) American fresh-water pearl fisherman's name for a button pearl with a low dome in contrast to **haystack pearl.** (2) A trade name for a pearl with irregular surface more or less resembling the pattern of the depressions and elevations on a turtle's shell. (3) A name rarely applied to round pearls from the variety of American clam known as the *turtle back.*

Tuticorin pearl. Pearl formerly fished near Tuticorin on coast

of Madras Presidency, India, across the Gulf of Manaar from Ceylon. Similar to **Ceylon pearl.** See **Madras pearl.**

tuxtlite. A name for the mineral midway between the sodium and magnesium **pyroxenes.** From Tuxtla, Mexico. The principal constituent of **mayaite.** See also **diopside jadeite.**

tweezers. Small pincers used for picking up and holding gemstones.

twin. A term frequently employed to mean **twin crystal.**

twin crystal. The intergrowth of two or more individuals (crystals or parts of crystals) in such a way as to yield parallelism in the case of certain parts of the different individuals and at the same time other parts of the different individuals are in reverse position in respect to each other (Dana). A *contact twin* is one in which its two parts have grown side by side, in contact with one another, but in reverse order, so that if one half of the twin crystal be rotated 180° on its joining plane, the form of the normal crystal will result. *An interpenetrant* or *penetration twin* is one in which the two crystals or parts have grown so they penetrate each other, often producing crosses or stars. *Polysynthetic* or *repeated twins* are composed of a great number of very small contact twins producing thin **laminae,** each twin crystal being arranged in reverse order to the next one. See **twinning.**

twinlones. Burmese mining term for any boring, pit or excavation sunk in alluvial deposits.

twinning. The process by which a twin crystal or crystals are produced. Caused by the reversal of the atomic position in the crystal lattice. *Polysynthetic* or *repeated twinning* is the production of **polysynthetic** or **repeated twins,** and frequently gives rise to characteristic fine parallel lines, called twinning striations, on the surface of a crystal (Kraus and Slawson).

twinning laminae. The **laminae** or thin plates in repeated twins. See **twin.**

twinning striations. See **twinning.**

twin or **twinned pearl.** Same as **double pearl.**

twins. (1) The plural of **twin.** (2) A miner's abbreviation of **twinlones.**

twin stone. Staurolite.

two-color pearl or **two-colored pearl.** True pearl which exhibits two distinct colors. Undesirable for necklaces but satisfactory for rings or other jewels.

U

uigite. (1) A white and yellow banded stone with a somewhat pearly sheen. Related to or classed as **prehnite.** From Uig on the Island of Skye, Scotland (Eppler). A variety of **chlorastrolite** from Uig on Island of Skye (Schlossmacher).

uintaite or **uintahite.** A variety of black, brilliant, lustrous asphalt which has many uses in the arts; from Utah; H. 2.-2.5, S.G. 1.065-1.070 (Dana). Has been used as a substitute for **jet.**

ultralite. Trade-marked name for a red-violet synthetic sapphire.

ultra-violet. The portion of the **spectrum** beyond visible violet. Ultra-violet light is of value in gemology as a means of exciting **fluorescence.**

umina. Inca name for emerald.

unakite or **unakyte.** A name for a stone occasionally cut in U.S.A. as a **curio stone** or for gem collectors, and according to Eppler formerly cut frequently in Germany. Consists of a ground mass of green epidote with pink to red inclusions which are probably feldspar, and usually mica.

unctuous feel. Very smooth and slippery; greasy to the touch.

undurchsichtig (German). Opaque.

uneven fracture. Fracture producing an uneven or irregular surface.

uniaxial stone. One which has crystallized in the tetragonal or hexagonal system, and therefore has only one direction or axis of single refraction. See **biaxial stone.**

Unio. A genus of fresh-water mussels which yields **fresh-water pearls,** including, according to Kunz, those of North America. Although Boutan only states North American mussels are of a related genus, he does not specify the genus and their pearls are called *Unio pearls* by most scientific pearl authorities.

Unionidae. A very large family of fresh-water **bivalves** known as fresh-water mussels, certain genera of which, especially the genus **Unio,** yield **fresh-water pearls.**

univalve. A mollusc having a shell consisting of a single piece. A gastropod. See **bivalve.**

universal immersion stage. See **stage.**

universal or **universal motion stage.** See **stage.**

unknown stone. In gemology any stone the genuineness, classification and species of which has not yet been determined by means of a gemological test, by the person who is asked to identify it.

unripe amber. Gedanite.

"unripe diamond." Rock crystal or colorless zircon.

unripe pearl. See **ripe pearl.**

"unripe ruby." Red **zircon.**

upala (Sanskrit). A precious stone. Opal is derived from the word (S. H. Ball).

uparatnani. The four lesser gems of the naoratna: jacinth, topaz, cat's-eye and coral. See **naoratna.**

Ural or **Uralian amethyst.** Same as **Siberian amethyst.**

Ural or **Uralian chrysoberyl.** Alexandrite.

"Ural" or **"Uralian chrysolite."** Demantoid garnet.

Ural or **Uralian emerald.** (1) Emerald from near Sverdlovsk, Siberia. Same as **Russian emerald.** (2) Incorrect term for **demantoid.**

"Ural or Uralian olivine." Demantoid garnet.

"Uralian sapphire." Blue tourmaline.

Uralian topaz. Mursinska topaz and also fine yellow topaz, and rose, violet and colorless topaz from Sanarka in the southern Urals.

Urals. The Ural Mts., a mountain system dividing European Russia from Siberia (Asiatic Russia). Many gemstones are found there; the more important ones on the Siberian side of the divide. See **Sverdlovsk.**

Uruguay or **Uruguayan agate.** Agate from same area as **Uruguay amethyst;** usually found in large masses of grayish color and before World War II, stained at Idar-Oberstein.

Uruguay or **Uruguayan amethyst.** A term which, when used to describe a trade grade or trade quality, usually refers to a deep violet, very transparent amethyst. A term also used to include all amethysts from an area along the border of Uruguay and Rio Grande do Sul, Brazil, which are mostly small and irregularly colored.

Utah jet. An inferior jet which came from Wayne Co., Utah.

utahlite. (1) Variscite found in nodular masses in Toole Co., Utah (Dana). Also (2) an alternate name for the species **variscite.**

utahlite matrix. An alternate name for **amatrice.**

"Utah turquoise." Misnomer for **variscite.**

uvarovite (oo-vah'rof-it or yuh-var'oe-vite). An uncommon almost emerald-green, chromium-colored species of **garnet,** which has occurred in sizes too small

for gem use, excepting, perhaps the larger crystals mentioned by Spencer in 1936 as having been found in Finland. Iso. $Ca_3Cr_2(SiO_4)_3$; H. 7.5; S.G. 3.4-3.5; R.I. 1.84-1.85; (1.83-1.87 Winchell). From Urals, Transvaal, Calif., and elsewhere.

uwarowit. Same as **uvarovite.**

V

vabanite. A brown-red jasper with yellow flecks. From California (Schlossmacher).

vadivu. (1) A Ceylonese trade grade of pearl. Small, irregular in shape and of good luster. Larger than seed pearl and especially favored in the Orient (Kunz). (2) The term (which means *beautiful*) is also used by the Ceylonese for a broader classification of pearls which include the medium grades, **machchakai,** vadivu, and **madanku** (Kunz) See **chevvu; kuruval.**

valence or **valency.** (1) The property possessed by elements of combining with or replacing other elements in definite and constant proportion. (2) Also the degree of this property—a degree which varies with different elements, oxygen having a valence of two, carbon a valence of four, etc.

valencianite. A name for **adularia** from the silver mine at Valencia, Mexico.

"Vallum diamond." Rock crystal from Tanjore district India.

valuation. The act of comparing the desirability of anything such as a gemstone, in comparison with other things, not necessarily in terms of money, as in gemology to compare the value of one ruby with another, or of rubies with garnets. However, in the trade it is often used as a synonym of appraisal. See **appraisal; evaluation.**

value. The comparative desirability or worth of a thing, not necessarily in money. Not synonymous with price unless expressed in terms of money.

valve. In conchology, one of the parts or pieces of a mollusc's shell.

variety. In gemology, a division of a species, or of a genus, based on color, type of optical phenomenon or other distinguishing characteristic of appearance, as **emerald** and **aquamarine** are each a variety of beryl, and **alexandrite** and **cymophane** are each a variety of chrysoberyl; in addition, sometimes based on source, as **Brazilian aquamarine** and **Madagascar aquamarine,** or **Thursday Island pearl** or **Broome pearl.** In mineralogy, the variety may be based upon a minor variation in chemical composition.

variscite (var'is-cite). An **orna-**

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mental or **curio stone**; yellow-green to blue-green; translucent to opaque. Ortho. $AlPO_4 2H_2O$. H. 4-5; S.G. 2.5; mean R.I. about 1.56-1.57. From Utah, Saxony and elsewhere. See also **amatrice, lucinite, peganite.**

variscite-matrix. A mixture of variscite and other mineral or rock, especially **amatrice.**

vashegyite. A mineral somewhat like **variscite** in appearance. A variety from Nevada has yielded some ornamental stones or gemstones for collectors. H. 2-3; S.G. 1.96; *n* 1.50 (Dana).

vegetable ivory. See **ivory (vegetable).**

vein. A crack, crevice, or fissure, filled, or practically filled, with mineral matter.

veinstone. Any mineral other than metal which occurs in a vein. See **gangue.**

Venezuela pearl. (1) A trade term for a **fine pearl** from waters of the Western Caribbean, especially off the coasts of South America and lower Central America. From the *Margaritifera radiata*, it is softer and much whiter than **Ceylon pearl** or more yellow than **Persian Gulf pearl.** See **Mexican pearl.** (2) According to Schlossmacher a name for bronze pearl from the hammer oyster *Malleus* and synonymous with **La Paz pearl** or **Panama pearl**, but these three names are not used in the American trade for the same class or grade of pearl. See also **Meleagrina pearl.**

venturina (Span.). Aventurine quartz (Eppler).

Venus hair stone. Crystalline quartz containing inclusions of reddish brown or yellow **rutile** fibers which may be tangled. See **hair stone, Thetis hair stone. sagenitic quartz.**

verd-antique. A decorative stone. Green serpentine clouded or veined with white or paler green calcite or with dolomite or magnesite, other minerals of the calcite group (Dana).

verde de Corsica (Fr.). Same as **Corsican green.**

verdite. A beautiful green rock composed of **fuchsite** and clay. Rarely substituted for jade. From Transvaal.

vermeil or **vermeille.** (Fr. meaning vermillion). A word used usually to mean **vermeille garnet** but also to mean orangy-red spinel or zircon.

vermeil ruby. Orangy red to red-brown corundum.

vermeille garnet. A trade term for any orangy-red garnet; same as guarnaccine garnet (Kunz). A term also sometimes applied to any brownish-red garnet.

Verneuil process. The method announced in 1902 by Verneuil, a French chemist, and used in the manufacture of **synthetic corundum** and **synthetic spinel.**

vernier. A small movable auxiliary scale for obtaining fractional parts of the subdivisions of a fixed scale, as on various instruments of precision.

vesicle. A small cavity in a mineral or rock, in many cases produced by the liberation of vapor in the molten mass.

vesicular. Having steam or gas bubble cavities, as in certain igneous rocks.

"Vesuvian garnet." An early name for **leucite,** an isometric mineral of no gem value or interest, except that its crysals resemble garnet crystals in form.

vesuvianite (vee - sue′vi - an - ite). Better known in England as idocrase. A mineral semitransparent to semitranslucent brown, green, occasionally sulphur yellow, rarely light blue (Dana). Also reddish and nearly black; clear and transparent green to brown varieties being cut as gemstones (Kraus). Also colorless (Schlossmacher). Tetr. A silicate of calcium and aluminum. H. 6.5; S.G. 3.3-3.5; R.I. varies, 1.70 to 1.74; Bi. 0.001 to 0.010; Disp. 0.019. From Russia, Italy, Quebec, Calif. and other sources. Its varieties include californite, cyprine, egeran, wiluite, and xanthite.

"vesuvianite jade." Same as **californite.**

"Vesuvian jade." The californite variety of **vesuvianite.**

Victoria Diamond. A well-known diamond which appeared in England in 1884, weighing 469 m.c. in the rough. Cut to 184.5 m.c.

"Vienna turquoise." An amorphous imitation of turquoise formerly manufactured in Vienna, Czechoslovakia, France and England. More difficult to detect than the various blue stained minerals which have replaced it as a turquoise substitute, it has approximately the same chemical composition, hardness, specific gravity and fracture.

vigorite. Bakelite (Eppler).

viluite. Same as **wiluite.**

vindharas. Skilled workmen who pierce and drill pearls in Bombay.

vinegar spinel (obsolete). Same as **rubicelle** (Bauer-Spencer).

violan or **violane** (vye′oe-lane). A translucent massive bluish violet variety of diopside. H. 6; S.G. 3.23; R.I. about 1.69 (Smith).

violet coral. A variety of **akori.**

violetish. Possessing the hue violet as a violetish blue color, a violetish ruby, etc., A coined word used in **color nomenclature system** of North American gemology.

violet stone. Cordierite.

violite. Trade-marked name for a purple synthetic sapphire.

viridine (manganoandalusite). A grass-green manganese-bearing

variety of andalusite. Strongly dichroic. R.I. 1.66-1.69.

"viscoloid." A variety of celluloid.

visible light. The light of the **visible spectrum.** See also **invisible light.**

visible spectrum. That portion of the **electromagnetic** spectrum, the waves which normally produce, upon the human eye, color sensations of red, orange, yellow, green, blue, violet or their intermediate hues, or of white light if the rays are combined. Distinguished from radio, **infra-red, ultra-violet,** gamma and X rays.

vitreous luster. A type of luster possessed by the majority of gemstones. It is the luster of broken glass. See also **subvitreous.**

vitrification. The act or process of becoming vitrified, i.e. converted into glass, as **crystalline quartz** is sometimes converted into **quartz glass.**

vi treo (Span.). Vitreous.

"volcanic chrysolite." Vesuvianite.

volcanic glass. Obsidian.

vorobievite or **vorobyevite.** Colorless or rose-colored beryl (**morganite**). From Urals and Madagascar.

vulcanite. Crude rubber heat-treated with sulphur. S.G. 1.15-1.20 (R. Webster). See **ebonite.**

W

Wade, Frank Bertram (1875-). A pioneer in gemological education in North America. Head of Chemistry Dept., Shortridge High School, Indianapolis. Member Educational Advisory Board Gemological Institute of America 1931-. Author of *Diamonds; a Study of the Factors That Govern Their Value*, New York and London 1916; *A Text Book of Precious Stones*, New York and London 1918; also papers on synthetic stones, regional African geology, etc.

Walton filter. An **emerald glass** or beryloscope mounted to resemble a **hand loupe** and called an emerald loupe in Europe. Observed through it the filament of an electric lamp appears reddish yellow, light from this filament passing through most genuine emerald appears the same color; through a Brazilian emerald from Minas Geraes, green; through an epidote, red; a dioptase, green, etc. (Schlossmacher).

wardite. A mineral of gemological interest only for its occurrence in **amatrice** or as inclusions in **variscite,** where it resembles eyes because of its concretionary form. A hydrous aluminum phosphate. H. 5; S.G. 2.5; R.I. 1.59/1.60 (Dana). From Utah.

warrior. Trade term for cameos or intaglios carved with the figure of a warrior of ancient Greece or other ancient nation.

wart agate. Variety of carnelian of mammillary or small spherical growths. Often found as covering colored agate.

wart pearls. German name for baroque pearls.

warty. Having small rounded protuberances, like warts.

warty-back pearl. Any fresh-water pearl from the Mississippi Valley mussel *Quadrula pustulosa* popularly known as the warty-back clam.

water. Term occasionally used in some countries, principally British, as a comparative quality designation for color and transparency of diamonds, rubies, and other stones which are described as rubies of second water, or diamonds of first water, etc.

water agate. Same as **enhydros.**

"water chrysolite." Moldavite.

water drop quartz. Rock crystal

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containing inclusions of water and air. A **curio stone.** Similar to **enhydros.**

watermelon tourmaline. A term applied to tourmaline, the center of which is pink and the edges green. Often seen in crystals but not in cut stones. See also **bocco de fogo.**

water opal. (1) Same as **hyalite,** or (2) any transparent precious opal similar to **Mexican water opal,** or (3) a misnomer for **moonstone.**

water sapphire. (1) Light-colored blue sapphire (Schlossmacher). (2) Misnomer for iolite. (3) A term which has been applied to water-worn pebbles of topaz, quartz, etc., from Ceylon, which usage is also misleading except when applied to sapphire pebbles.

water stone. (1) Moonstone. (2) Hyalite. (3) Enhydros. (4) A Chinese name for jade.

waterworn stones. Gem minerals, especially crystals, rounded by action of water rolling them against rocks or gravel in beds of rivers, lakes or ocean.

wave length. The length of a wave (of light, water, sound, etc.) measured from a given point on one wave to the same point on the following or preceding wave.

wave-length spectrometer. See **spectrometer.**

wax agate. Yellow or yellowish red chalcedony with a pronounced waxy luster. Similar to yellow **carnelian.**

wax-filled pearl. Imitation pearl made of a hollow glass sphere coated with **essence d'orient** and filled with wax. Same as **Roman pearl.**

wax opal. Yellow opal with a waxy luster.

waxy luster. Similar to **vitreous luster** but lacking its bright reflection.

weak dichroism. See **dichroism.**

weathering. Disintegration and decomposition of rocks or minerals by elements of the atmosphere, especially by the action of frost and ice which, forming in cracks, splits rocks.

Webster. A word used in this book to refer to the Webster dictionaries of G. & C. Merriam Co.

Webster, Robert. Fellow, Gemmological Assoc. of Great Britain. Author *Gemmologist's Pocket Compendium,* London, 1937, and *Practical Gemmology,* London (not dated). Referred to in this book as R. Webster.

wedding anniversary stones (U. S.A.). See **anniversary stones.**

Wedgwood. A well known make of porcelain and semiporcelain, the latter including **jasper ware** in which the *Wedgwood cameo* is moulded and set in jewelry.

well. A trade term for the dark nonreflecting spot often seen in

the center of a fashioned stone, especially in a colorless stone.

Weltauge (German). Same as **oculus mundi.**

wernerite. A species of the **scapolite** group. See **scapolite.**

Westphal's balance. A balance for determining S.G. of **heavy liquids**; employs a weight and a sinker.

West's solution. A liquid consisting of eight parts of white phosphorous and eight parts of sulphur to one part of metheylene iodide. Useful in obtaining R.I. by the **Becke method.** R.I. 2.05.

Whitby jet. Jet from the coal mines of Yorkshire, near Whitby, England. Was considered to be the most desirable quality of jet when jet was in vogue.

white acid. Hydrofluoric acid.

white agate. A term sometimes applied to white or whitish chalcedony.

"white beryl," "white zircon," etc. A term often incorrectly but popularly applied to transparent stones which are in fact colorless. For example, white quartz is chalcedony and not rock crystal. The latter, being transparent, is colorless.

white carnelian. A term which has been used for white **chalcedony** with faint tint of carnelian color or spots or splashes of that color. Also has been used even less accurately for white or milky-white chalcedony.

White Cliffs opal. Opal from White Cliffs, 60 miles north of Wilcannia, New South Wales, Australia; an opal-bearing area. See **light opal.** Usually possesses a milky to white body color.

"white emerald." Caesium **beryl** (Merrill).

white garnet. A translucent variety of **grossularite** which sometimes resembles **white jade** in appearance.

"white iron pyrites." Same as **marcasite.**

white jade. (1) White jadeite or nephrite. (2) Misnomer for white translucent **grossularite** garnet from California.

white moss agate. Agate containing laıge areas of white inclusions.

white opal. A trade term for precious opal with any light body color as distinguished from **black opal.**

white pearl. (1) Trade term for **fine pearl** with white or very nearly white body color, and with no particular **overtone** or **orient** except a very pale bluish one. Does not include **light rosé pearl.** (2) A trade term sometimes used to distinguish any pearl with white or cream body color from **black pearl, colored pearl** or **two color pearl.**

"white sapphire." See **white beryl, etc.**

"white schorl." A confusing and undesirable name for **albite.**

white silk stone. Same as **satin spar.**

"white stone diamonds." Genuine or imitation colorless stones of various kinds.

"white topaz." Colorless topaz.

Whitlock, Herbert Percy (1884-). Curator of Gems and Minerals, Am. Mus. of Nat. Hist. 1917-41. Author of *Art of the Lapidary,* 1926;*Jade, Amber and Ivory,* 1934; *The Story of Gems,* 1936, 1940; *The Story of the Minerals,* 1925.

whorl. A turn as of a spiral shell.

Wicklow diamond. Rock crystal from Wicklow, Ireland.

Wigglesworth, Edward (1885-1945). Ph.D. Harvard, 1917. Certified Gemologist, 1938. Curator Mineralogy and Geology, Boston Society of Natural History, 1914-1919; Director 1919-1939; Fellow Mineralogical Society of America 1925-'45, and Vice-president 1929; Educational Adviser Boston Guild, American Gem Society 1935-'45; Member Educational and Examining Boards Gemological Institute of America 1939-'45. Scientific Director Boston Society of Natural History 1939-'40; Director Eastern Laboratory Gemological Institute of America, 1940-'45. President, 1941-'45.

Wild, Geo. O. Author of *Practikum der Edelsteinkunde. (The Practice of Gemology).* Director, Institute of Precious Stone of **Idar-Oberstein.**

wild pearl. Term sometimes used by scientists for a pearl whose growth began naturally as contrasted to a **cultured pearl.**

willemite. A mineral often strongly fluorescent, and sometimes fashioned as gemstone for collectors, especially if transparent. Transparent to opaque, white, greenish, yellow, yellowish-green, reddish and brown (Dana). Also more rarely blue, black, white and colorless (Kraus). Hex. Zn_2SiO_4; H. 5-6; S.G. 3.9-4.3; R.I. 1.69/1.72. Bi. 0.029 (Kraus). From New Jersey, and less important sources.

williamsite. A variety of massive yellowish green **precious serpentine** which has been represented as jade. From Chester Co., Pa. Also from near Baltimore, Md. (Dana). See **baltimorite.**

wilsonite. (1) Purplish-red scapolite (Merrill). (2) The name of a mineral that is also classed as **pinite** (Dana). Of no gem interest.

wiluite. (1) A greenish variety of **vesuvianite** from Yakutsk, Sibberia. Also (2) a name sometimes used for green **grossularite** garnet of the same region, probably because the first wiluite discovered there was grossularite in part. The name is of no other gemological interest.

Winchell, Alexander Newton

(1874 -). Professor of Mineralogy and Petrology, Univ. of Wisconsin. Author of *The Elements of Optical Mineralogy*, 3 Vols., N. Y., 1929.

winchellite. An alternate name for **lintonite.**

wine jade. A descriptive term applied by Chinese to a particular color of jade.

wing pearls. Pearls that are elongated or irregular, resembling a wing or part of a wing.

Wisconsin pearl. Formerly a term applied to the better quality of **fresh-water pearl** found in the Mississippi Valley; whether or not from the state of Wisconsin. Also a name more or less synonymous with fresh-water pearls, as a large quantity of them were marketed through Milwaukee, Wisconsin.

wisps. Whitish wisp-like fractures resembling thin wind - blown clouds. Occur in some synthetic emerald but never in the genuine.

wolf's-eye. (1) Same as moonstone (feldspar) or (2) Same as **wolf's-eye stone.**

wolf's-eye stone. A rarely used name for **tiger eye** especially that which is partly silicified and therefore intermediate between **tiger eye** and **hawk's-eye.**

wollastonite. A mineral, of gemological interest only as a constituent of so-called **rose garnet.** White, inclining to grey, yellow, red or brown. $CaSiO_3$. Mono. 4.5-5; S.G. 2.8-2.9; R.I. 1.62-1.63; Bi. 0.015 (Dana).

wood agate. Agatized wood.

Wooden Spoon Sellers Sapphire. Same as **Rospogli Sapphire.**

wood opal. Same as **opalized wood,** but not applied to precious opal pseudomorphous after wood.

Wood's filter. A very dark glass which absorbs almost all the **visible spectrum,** but transmits ultra-violet rays.

wood stone. An alternate name for **petrified wood.** See **Holzstein.**

world eye or **world's-eye.** A name for **hydrophane.**

Württemberg jet. Jet from Schomberg, Boll and many other places in Swabian Alps (Bauer-Schlossmacher). See **German jet.**

Wyoming jade. Nephrite from Wyoming. Jadeite also reported from Wyoming in 1944, was later proven to be nephrite.

"Wyse ruby." An alternate and obsolete name for **"Geneva ruby."**

X

xaga. California Indian name for **obsidian** (S. H. Ball).

xalostocite. Same as **landerite.**

xanthite. A name for yellowish to yellowish brown **vesuvianite** from Amity, N. Y., with no particularly different characteristics from other vesuvianite.

xilopalo (Span.). Wood opal.

Xiuitl (Mex.). Turquoise found by the Aztecs near the City of Mexico.

x-rays. Radiations of the **electromagnetic spectrum** of wave lengths shorter than **ultraviolet** and averaging about one Angström unit. Because they penetrate opaque as well as transparent substances they have been used for altering the color of some gemstones and also in testing gemstones, principally pearls. Such tests are based on the action of the atomic structure of minerals (aragonite or calcite in pearl) to act as **diffraction grating** diverting the rays in such a way as to record, on a photographic plate, different patterns of spots for different minerals; also different patterns for round pearls and mother-of-pearl. The latter difference identifies **genuine pearls** from **cultured pearls.** The photographs are known as **Lauégrams.** X-ray radiations also produce fluorescence in most **cultured pearls** but rarely in genuine **salt-water pearls.** They are also used to obtain **radiograms** used in pearl testing.

x-ray test (for pearls). See **x-rays.**

xylonite. A trade name for a celluloid.

xylopal. A name for **opalized wood.**

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Y

Yahalom. The sixth stone in the Breastplate of the High Priest. Kunz believes the stone to have been onyx; Cooper believes it rock crystal. Some scholars argue that in the original Hebrew **Yashpheh** was the sixth stone in place of Yahalom. Engraved with name of Zebulom.

yakhont. Ancient Russian word for, or term denoting semiprecious stones, amethyst, sapphire, hyacinth, ruby, etc.

yanolite. (1) A name for violet **axinite.** (2) Same as axinite (Standard).

Yarkand jade. Nephrite from the jade market and cutting center of Yarkand, Russian Turkestan, of inferior qualities as best qualities are usually sold to cutters in China.

Yashpheh. Twelfth stone in Breastplate of the High Priest. Ancient versions translate as jasper, probably a green jasper, though there is reason to believe that the stone may have been nephrite or jadeite, the Chinese **Yü** stone. Engraved with the name of Assher.

yellow-brown. In **color nomenclature system** of North American gemology, the color approximately midway between vivid yellow and the **tone** and **intensity** of brown which is almost black. Same as brown-yellow.

yellow-green. In **color nomenclature system** of North American gemology the **hue** midway between yellow and green. Same as green-yellow.

yellowish brown. In North American gemology a color between yellow-brown and the tone and intensity of brown which is almost black.

yellowish green. In North American gemology a **hue,** approximately midway between green and **yellow-green.** Therefore more green than yellow.

yellowish orange. In North American gemology, a **hue** approximately midway between orange and yellow orange, and therefore more orange than yellow.

yellow-orange. Same as orange-yellow.

yeso (Span.). Gypsum.

Yogo sapphire. Montana sapphire from Yogo Gulch, Montana, or mined by Yogo American Sapphire Syndicate.

Younghusband, Sir George John (1850-1944). Keeper of the Crown Jewels of England since 1917. Books: *The Crown Jewels of England,* 1919; *The Tower of London Within,* 1919; *The Jewel House,* 1921.

youstone. An old English term for jade.

yowah nut. A term which has been used for a subvariety of boulder opal which occurs in the form of tiny boulders. Usually of walnut or almond size. The center of some of these is opal, at other times ironstone covered with a thin band of opal. They are less often hollow. From near Yowah station in West Queensland.

Yü (yue). Chinese word for jade, or for any very precious stone.

Yuh. Same as **yü.**

yustone. Jade.

Z

zafirina (Span.). Misnomer for blue spinel or blue chalcedony.

zafiro (Span.). Sapphire. The name is sometimes also incorrectly applied to lapis lazuli.

zanzibar pearl. Same as **African pearl.**

zeasite. (1) Wood opal. (2) An old name for a variety of **fire opal.**

Zeberged. The island in the Red Sea where peridot was first discovered and from which the finest qualities have come. Also known as St. John's Island, Seberget, Sebirget and Zebirget.

zebra jasper. Dark brown jasper with lighter brown streaks. From India.

"zebra jasper." Same as **"zebra stone."**

"zebra stone." Brown **limonite** with lighter brown layers of ancient shell material.

zeuxite. A name for green Brazilian tourmaline.

zeylanite. Same as ceylonite (Standard).

Zimtstein (German). Hessonite.

zincblende. A name for **sphalerite.**

zinc spar. An early name for **smithsonite.**

zinc spinel. Same as **gahnite.**

zinni pearl. Pearl from the zinni variety of *Meleagrina vulgaris* of the Persian Gulf and therefore geographically a variety of **Persian Gulf pearl.** Often yellowish in color and generally inferior in quality and numbers to **Lingah pearl.**

zircolite. A copyrighted trade name for colorless synthetic spinel.

zircon (zur'kon). One of the most important gemstones, occurring naturally in transparent colorless, red, orange, brown, yellow and green varieties. The non-gemstone varieties are translucent to opaque brownish or greyish and certain of these, when heated, may change to transparent colors of the natural gemstone varieties, or frequently to blue, a color which never occurs in nature except perhaps such a pale blue that it is almost colorless. *As a species* zircon is unusual in its great range of S.G. and R.I. Tetr.; $ZrSiO_4$; H. 7.5; S.G. 4.0-4.8; R.I. 1.92/1.95 - 1.96/2.02; Bi. 0.060. The S.G. and R.I. vary because of variations in the crys-

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tal structure consisting of partial to complete breakdown of the crystal lattice; the lower properties occurring in the zircon indicate that the lattice is entirely broken down and the zircon therefore amorphous. This amorphous zircon is usually green and from Ceylon, with properties approaching H. 6.; S.G. 3.95; R.I. (singly refractive) 1.79. Often designated mineralogically as **gamma zircon.** It is rarely seen in the gem trade. The normal type of fully crystallized zircon is transparent and of the various gem colors. It is found naturally in all these colors, except blue, in Burma, Ceylon, Australia, Russia and elsewhere. This is the type almost always seen in the gem trade and has about S.G. 4.7; R.I. 1.92/1.98; Bi. 0.059. It is often designated mineralogically as **alpha zircon.** In all other zircon the S.G. and R.I. are intermediate between the normal crystal type and the amorphous type which is partly amorphous and partly crystalline. Most authorities include in this classification only greenish zircon from Ceylon. Mineralogically such stones are often classed as **beta zircon.** No authority has reported on the properties of the smoky brown zircon usually found in Indo-China, most of which is heat treated in Bangkok, Siam, to transparent gem qualities of all colors. After heat treatment these stones have properties of the normal (or alpha) zircon, but fracture more easily and often revert toward their original color when exposed to direct sunlight. See **jacinth; hyacinth; Siam zircon.**

zirconite. A name for brown **zircon** (Smith).

zircon rose. European term for rose-cut zircon.

"zircon spinel." Synthetic blue spinel.

zirctone. A copyrighted trade name for a bluish green synthetic sapphire.

Zn. Abbr. for zinc.

zodiacal or **astral stones.** Gems believed to be peculiarly and mystically related to the zodiacal signs. These are: Aquarius (Jan. 21-Feb. 21) **garnet;** Pisces (Feb. 21-March21) **amethyst;** Aries (March 21-April 20) **bloodstone;** Taurus (April 20-May 21) **sapphire;** Gemini (May 21-June 21) **agate;** Cancer (June 21-July 22) **emerald;** Leo (July 22-August 22) **onyx;** Virgo (Aug. 22-Sept. 22) **carnelian;** Libra (Sept. 22-Oct. 23) **chrysolite;** Scorpio (Oct. 23-Nov. 21) **beryl;** Sagittarius (Nov. 21-Dec. 21) **topaz;** Capricorn (Dec. 21-Jan. 21) **ruby.**

zoisite (zo'iss-ite). A mineral which yields **ornamental** and **decorative stone** (including **thulite**) but no

gemstones. Ortho. $Ca_2Al_3Si_3O_{13}$; H. 6-6.5; S.G. 3.2-3.4. R.I. 1.70/1.71. Bi. 0.006. Kraus classifies as an orthorhombic modification of **epidote**. From Mass., Pa., Tenn., and overseas.

zonite. A name which has been used in Arizona for locally occurring jasper or chert of various colors (Merrill).

zonochlorite (zo-no-klor'ite). A green banded pebble found in Lake Superior region. **Prehnite** similar to **chlorastrolite** (Merrill).

Zr. Abbr. for zirconium.

zylonite. Same as **xylonite.**

ADDENDA

Definitions which appear on these pages are in addition to those which appear in regular order in the dictionary proper. The numerals (2) or (3) indicate these definitions to be the second or third meaning of the word.

amethyst quartz. A term loosely used by some members of the trade to designate badly flawed cabochon amethysts, especially those cut from **amethystine quartz.**

bezel. (2) A term more specifically used to mean the sloping surface of the crown between the table and the girdle. (3) Still more specifically used to mean only a small part of that sloping surface just above the girdle; the so-called setting edge. (4) The groove made in a setting to receive the girdle and the immediately adjacent section of a gemstone.

Bohemian garnet. (2) A term less often used to refer to garnet found in Bohemia that is usually dark intense red in color. Most often seen as rose cut stones paving low carat jewelry.

briolette. (3) This style as usually seen in U.S.A. has no girdle or table and is of very elongated pear shape but pointed at top.

calibre. (2) A word also used in the trade loosely and incorrectly, but rarely, for any modern **fancy cut.**

carnelian onyx. (2) Also a term used in a broader sense for any

true **onyx**, one or more of the alternating bands of which are carnelian colors. Differs from **sardonyx**. See **carnelian agate**.

Ceylon cut. (2) Also a trade term in U.S.A. for a stone of almost any facetted style fashioned unsymmetrically to preserve as much of its original weight as possible. See **Indian cut**.

Ceylon moonstone. (2) A term also used by some jewelers to distinguish genuine **moonstone** from its substitute "**chalcedony moonstone.**"

chaton foil. (2) A term often more specifically used in the trade to mean a colored **imitation foil back**.

corn tongs. (2) In the U.S.A. a term infrequently used to describe **pearl tongs**.

creolite. (2) A name also applied to a silicified rhyolite from extreme northern part of Baja California.

"**crystalline emerald.**" (2) A misleading name for a false doublet of green glass with a white glass top.

cushion cut. (2) Same as step cut. (Kraus and Slawson) (3) A trade term used, by some North American importers of colored stones, to describe facetted and other styles of cutting that have rectangular girdle outlines. If the sides are of equal length, the style is known as *square cushion cut;* if oblong, it is the same as **baguette** Cabochon and other styles that have curved sides and rounded corners are known as *antique cushion cut.*

doublet. (2) In the North American jewelry trade the stone to which this term is most generally applied is a **semigenuine doublet** of glass with a thin garnet top.

emerald triplet. (2) Also a triplet consisting of (a) a thin plate of red garnet for the table (b) rock crystal for the body and (c) green glass for the lower part. Rare. (3) The term is also loosely and incorrectly used to designate green **doublets**.

fancy sapphire. (2) Also, in the trade assorted lots of sapphires and sometimes as many as a dozen other mineral species of almost every conceivable color are incorrectly sold under this term. (Wade)

flame opal. (2) A **flash opal** with red the predominant color.

French cut. (2) A term also questionably used in the American trade to mean **calibre cut**.

gem pearl. (2) A term more specially used to mean an iridescent pearl, really spherical, with maximum luster of even intensity, free from all visible blemishes and of a decided and desirable **orient** such as pink **rosé**.

Titles within **quotation marks** are misnomers. Every unusual word or term used is defined in this book and if printed in **bold faced type** its entry should be consulted To fully understand the definitions, read the introductory pages.

hard mass. (2) A term sometimes also used in the trade to mean any green glass imitation of emerald, especially those containing imitations of **jardins.** Also spelled *hard masse.*

Hungarian opal. (2) A name widely used by the gemstone importing trade in U.S.A. for any white opal regardless of where it was found.

Lightning Ridge opal. (2) The name of a particular opal of especially large size.

main facets. (2) Any other facets extending from girdle to table or from girdle to culet.

marquise cut. (2) A term also sometimes applied to a cabochon of the same outline.

"Mexican Jade." (2) A name which has been also more correctly used for **mayaite** or **diopside - jadeite.**

myrickite. (2) Cinnabar intergrown with common white opal or translucent chalcedony. (3) Massive quartz unevenly colored pink or reddish by cinnabar, which soon turns brownish.

onyx. (3) A name applied, incorrectly from a mineralogical or gemological standpoint, to unbanded chalcedony of pure black, pure green, or pure white color, as for example, "black onyx," "green onyx," or "white onyx." Such terminology, although also unapproved by dictionaries of the English language, is in general use by a large part of the jewelry trade in U.S.A. notwithstanding the fact that most laymen associate onyx with lamp bases, ash trays, etc. made of **onyx marble.**

onyx marble. (2) An incorrect trade term for easily dyed unbanded marble (calcite) which is also sold under the same incorrect names.

oregonite. (2) A certain type of orbicular jasper that is characterized by a white outline around each **sphaerule** or orb. It is found near Grants Pass, Oregon.

oriental lapis. (2) A term also less correctly applied to any lapis lazuli to distinguish it from substitutes.

oval cut. (2) A term used most often to mean a style of cutting in which the girdle outline is elliptical, i.e. a rounded oblong.

pagoda stone. (2) An agate with pagoda-like markings (Anderson).

pipe opal. (2) A local Australian name for **sandstone opal.**

rose garnet. (3) Also a trade term for a **rose-cut** garnet.

sandstone opal. (2) This variety of boulder opal "occurred in the form of 'pipes' from the thickness of a needle to one inch or more, running through a free sandstone," it was thick enough to cut into well-shaped cabochons. (Wollaston.)

sapphire quartz. (2) In western states of U.S.A., this term is applied to chalcedony of light sapphire blue to pale sapphire blue color.

sardonyx. (2) This name is being increasingly but confusingly used in the jewelry trade of the U.S.A. to mean **carnelian,** especially that carnelian which is dyed, a usage which is nevertheless generally considered to be inaccurate and incorrect.

seal sapphire. (2) A sapphire fashioned as a seal with a large table suitable for the engraving upon it of a monogram or crest.

seam opal. (2) Also a name for sandstone opal. (3) A form of white opal which is found at White Cliffs in thin flat cakes sometimes without adhering matrix; sometimes consists of both precious and common opal.

"shell cat's-eye." (2) A term also applied to any piece of mother of pearl which exhibits a **chatoyant effect.**

silica. (2) Also occurs in uncrystalline forms.

Smithsonite. (2) Has also been found, infrequently, in deep green **gemstone** quality, principally in New Mexico.

Spanish emerald. (2) In U.S.A. jewelry trade this is also a common misnomer for a green glass imitation of emerald.

Strahlstein (German). Usually refers to **actinolite.**

table cutter. (2) A lapidist in a large shop who fashions only the tables of gemstones. Because a table is relatively the largest facet and irregularities of polish are more apparent on it, the lap must be more skillfully handled than in polishing smaller facets.

topaz quartz. (3) A term also often used in the gemstone importing trade of U.S.A. for poor quality yellow to brownish crystalline quartz or **citrine,** translucent or transparent, often streaked and flawed.

ADDENDA (fourth edition)

anniversary stones. A new wedding anniversary list of 1948 supercedes all previous lists now in circulation; sponsored by Jewelry Industry Council; endorsed by American National Retail Jewelers Association, National Association of Credit Jewelers, and National Wholesale Jewelers Association. The list follows: (1) Clocks, (2) China, (3) Crystal and Glass, (4) Electric Ap-

pliances, (5) Silverware, (6) Wood, (7) Desk Sets, Pen and Pencil Sets, (8) Linens and Laces, (9) Leather, (10) Diamond Jewelry, (11) Fashion Jewelry and Accessories, (12) Pearls and Colored Gems, (13) Textiles and Furs, (14) Gold Jewelry, (15) Watches, (16) Silver Hollow ware, (17) Furniture, (18) Porcelain, (19) Bronze, (20) Platinum, (25) Sterling Silver, (30) Diamond, (35) Jade, (40) Ruby, (45) Sapphire, (50) Gold, (55) Emerald, (60) Diamond.